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TECHNIQUE & TIPS SPECIAL

Master low light

David Clapp's tips for great landscape, travel & city shots, even when the light fails

Moody city secrets...

Discover the classic late-night 'noir' work of Fred Lyon, 93



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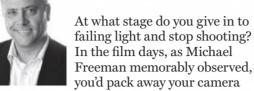
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A week in photography



and have a Martini when it started to get dark. Today, high ISO digital cameras and fast lenses have made twilight and night shooting more realistic. Turn to page 12 for David Clapp's practical guide to low-light shooting.

We also speak to the redoubtable Fred Lyon. now 93, about his wonderfully noir images of old San Francisco (page 26).

Coming up to date, don't miss our review of the excellent Panasonic G9 on page 40, which was tested in South Africa on safari. Finally, if you've had a great experience with a dealer, don't forget to nominate them in our Good Service Awards: www.amateurphotographer. co.uk/gsa. Nigel Atherton, Editor

Amateur amateurphotographer. **hotographer** co.uk



photographer.magazine









Frosty Ferns by Steve Palmer

Pentax K-1, 70-200mm, 1/160sec at f/8, ISO 1600

This wintry macro shot was uploaded to our Twitter page using the hashtag #appicoftheweek. It was taken by photographer Steve Palmer on his Tamron 70-200mm lens. He tells us: 'It was a cold and frosty Sunday morning and the sun had just come up when I came across these frost-covered ferns on Lindow Common in Wilmslow.

Cheshire. The sun's rays had just begun to reach them, and I really liked the combination of muted colours together with the patterns and textures. I used my Pentax K-1, and a focal length of 87.5mm, and made sure that I composed the shot to include these elements and catch that feeling of warmth coming through."

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NEWS ROUND-UP

The week in brief, edited by Amy Davies and Hollie Latham Hucker



New Western Digital storage drives

A pair of SSD storage drives has been announced by Western Digital. Available in capacities up to 2TB, the MyPassport Wireless SSD drive (above) features a built-in SD card reader and USB 3.0 port. Meanwhile, the SanDisk Extreme Portable SSD drive has been made weather-resistant and rugged for use out in the field.

Kodak launches currency for photographers

The value of Kodak's shares rocketed after the company announced its plans to launch its own crypto-currency. The firm, based in the USA, is teaming up with British company Wenn Media Group for the 'KodakCoin'. The initiative is designed to help photographers maintain control over their image rights.



Exhibition celebrates Flliott Frwitt's 90th

A new free exhibition at the Beetles+Huxley gallery in London features more than 50 images by legendary Magnum Photos photographer Elliott Erwitt. Born in Paris in 1928, Erwitt moved to New York at the age of 18, and was a key player in the city's emerging photography scene. The exhibition is on until 17 February. For more, see beetlesandhuxley.com.

Supersized L bracket launched

Following the release of the QR11-L Universal L Bracket, 3 Legged Thing has announced two larger models suited to full-sized cameras and cameras with battery grips. The QR11-FB Universal L Bracket is a quick-release plate with a 110mm working base compatible with standard Arca Swiss style clamps and heads.



X-Rite and Serif continue partnership

The X-Rite and Serif partnership in 2018 means anyone purchasing selected X-Rite products, including the i1Display Pro, ColorMunki Display, and ColorMunki Photographer Kit, can download Serif's photo-editing software Affinity Photo for free. The offer runs until 31 March. See xritephoto.eu/affinity for more details.



BG

Watersport masterclass with legendary pro Bob Martin

This week's Big Picture was taken by AP's reviews editor Michael Topham, during an exclusive shooting experience at the London Aquatics Centre, courtesy of Sony. Before getting poolside to shoot Team GB divers and swimmers using Sony's latest cameras and lenses, a select group of photo press





was given insightful tuition from legendary and multi-award-winning sports photographer Bob Martin, on what it takes to shoot Olympic sports like a professional. This image, captured on the sensationally fast Sony Alpha 9 with the Sony FE 70-200mm f/2.8 GM OSS lens, is one frame from a quick-fire burst of 30 images captured at 20fps. To quote Bob: 'You should never stop shooting until you get the killer shot.'

Words & numbers

Twelve significant photographs in any one year is a good crop

Ansel Adams (1902-1984) American photographer and environmentalist





New 180-400mm tele-zoom from Nikon

NIKON has launched its first DSLR lens with a built-in 1.4x teleconverter. The focal range of the AF-S Nikkor 180-400mm f/4 TC1.4 FL ED VR can be extended from 180-400mm f/4 to 252-560mm at f/5.6 at the flick of switch, but you sacrifice a stop along the way.

If mounting the lens on one of Nikon's APS-C cameras, such as the D500, the equivalent full reach of the lens is 840mm. Photographers can activate the converter without having to take their eye from the camera's viewfinder, thanks to a conveniently located extender switch.

The new lens is a replacement for the AF-S 200-400mm f/4G ED VR II, but weighs just 140g more (for a total weight of 3,500g), despite the addition of the extender. The design features a fluorite lens element, which helps to keep weight down.

Aimed primarily at sports and wildlife photographers, Nikon is promising edge-to-edge sharpness across the focal range, even when shooting at the maximum aperture. It features Vibration Reduction (VR) which, Nikon claims, offers four stops of image stabilisation – even with the extender engaged. In addition a Sport VR mode and advanced AF tracking help the lens to lock on to and maintain focus with fastmoving subjects.

With its robust magnesium-alloy body, the new lens is designed for professional use. Every moving part



of the lens barrel is weather-sealed and a fluorine coating helps to repel water, dust and dirt.

Emma Fergie, product manager for sport optics, lenses and accessories for Nikon UK, said: 'This telephoto lens is built to withstand the intense demands that sports and wildlife pros may throw at it. Improvements in optics and design have allowed us to offer greater

versatility and a longer reach without impacting on the performance. Extreme sharpness and advanced AF tracking mean you won't ever miss that all-important shot, and the fully weather-sealed lens barrel make it the perfect companion for when you're out in the field.'

As you might expect, the lens doesn't come cheap. Available from March, it'll set you back £10,999.



Firmware upgrade for Sony Alpha 9

sONY has announced a firmware update (2.0) for its popular top-of-the-line Alpha 9 full-frame mirrorless camera bodies.

The upgrade brings with it improvements to continuous AF, including enhanced performance of continuous autofocus on moving subjects, plus better stability of AF-C when zooming.

New functions include transferring multiple FTP protected files, the ability to input IPTC metadata to files, and the option to add the camera's serial number in metadata. Further improvements have been made to operational stability, as well as the accuracy of the overheating warning function.

The upgrade can be downloaded for free; see sony.com for more details.



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GoPro leaves drone market and cuts jobs

Action camera manufacturer GoPro has announced it is exiting the drone market, amid news that it is also to cut more than 250 jobs. It plans to reduce the price of its flagship action camera to promote sales.

The plans are designed to save GoPro an estimated \$80million, and include the measure of GoPro founder and CEO Nicholas Woodman reducing his cash compensation for 2018 to just \$1.

GoPro's current drone, the Karma, has been beset with problems since its launch, including having to be recalled after customers reported it falling out of the sky during regular use. Once the existing inventory of Karma stack has been sold, GoPro will no longer offer new products. Support for those who own one of its drones will continue to be provided.

Attributing its decision to stop producing drones in an extremely competitive market, GoPro also said in an official statement that a 'hostile regulatory environment in the Europe and the United States will likely reduce the

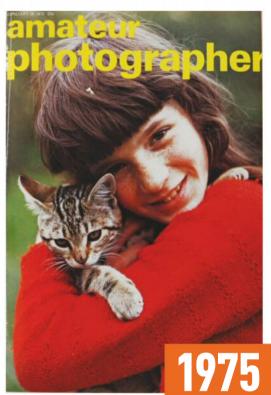
total addressable market in the years ahead.'

The company's workforce is due to be reduced from 1,254 employees (worldwide) to fewer than 1,000 in another cost-saving measure. The price of its flagship action camera, the Hero 6 Black, is also being reduced by around \$100 in a bid to drive more sales.

CEO Woodman added, 'GoPro is committed to turning our business around in 2018. We entered the new year with strong sell-through and are excited with our hardware and software roadmap.'

Back in the day

A wander through the AP archive. This week we pay a visit to January 1975



What could be cuter than this cover image of a young girl with a kitten? Don't be fooled, though, as this issue had some pretty racy content, namely a spread on 'Action Girls'. We'd never get away with this kind of malarkey these days, but the feature is interesting as the intro blurb captures the economic uncertainty of the mid-1970s. Other period curiosities from this packed issue include a round-up of cutting-edge cartridge compacts (remember those?) and a slightly disturbing-sounding piece called 'Animal Action Indoors'. It is also interesting to see how much of the magazine was given over to cine cameras and indeed, cine clubs. Of course, there was a lot for stills fans too, including 'Notes for Novices' (are you listening at the back) and an intriguing article on photographing star weddings by the wonderfully named Tom Hustler. Flares and droopy moustache mandatory.



'Beautiful girls frolicking in the water', as the intro states

Vote in the Good Service Awards 2018

WHERE is the best place to buy a camera? Who can provide you with the right information and products at a good price? The *Amateur Photographer* Good Service Awards aim to answer

these questions by presenting an award to photography retailers who stand out from the rest.

When you're buying a camera or any item of photographic equipment, the service you receive is as important as the price you pay. Whether it's informative buying advice

or, in the case of online retailers, swift delivery and equally swift action if things go wrong, good service is a precious commodity that should be shouted from the rooftops. The *Amateur Photographer*

Good Service Awards recognise and reward those retailers who go the extra mile.

Time is running out, though, so vote now for your favourite retailer at www. amateurphotographer. co.uk/gsa. The closing date is 31 January.



For the latest news visit www.amateurphotographer.co.uk

7days.



Viewpoint Jon Bentley

With the Google Pixel 2's camera only on the path to getting better, camera makers need to sit up and take notice of the high-quality images and processing technology in smartphones

he trade-offs between using a camera and a camera phone are pretty familiar these days. The phone is always with you, it's more discreet so you can get away with taking pictures in more places, and it offers easy GPS tagging and instant uploads to social media. The camera on the other hand has the extra image quality from a bigger sensor, optical zooms, better lenses and the option of proper flash.

Using a Google Pixel 2 smartphone recently made me aware of another factor that's beginning to separate high-end phones from most cameras: better processing power and software. Phone manufacturers are exploiting the fast processors in their latest devices to take better photos in ways camera makers may have dabbled with, but have not yet delivered in such a convenient and capable package. Camera makers will need to sit up and take notice.

What makes the Pixel stand out?

By default, for example, the Pixel uses HDR and does an extraordinarily good job of it. The results may look a little artificial at times, but many a compact camera owner is going to find their Pixel vastly better at, say, against-the-light landscape shots.

Merging pictures to enhance image stabilisation and reduce noise at high ISO are further skills the Pixel seems to master effortlessly. Sony's Handheld Twilight Mode, Anti Motion Blur and Multi-frame Noise Reduction are similar features of course, but I don't recall them being so seamless and effective as on the Pixel 2. The noise reduction is so good that it makes a small sensor seem like an advantage, helping to achieve a relatively large depth of field in low light and a wide aperture in a physically smaller lens.

Increasingly there will be photos that a phone can take but a conventional camera can't. A minor example of this, for me, was shooting some *The Gadget Show* fans on a carousel at the Birmingham Christmas Market. It was dim. it was action



Jon took this picture in dim light on the Pixel 2 at Birmingham Christmas market

'The Pixel uses HDR and does an extraordinarily good job of it'

of a sort and there was considerable depth of field in the shot. The processing delivered a sharp picture of the people, with everything in focus and low levels of noise, all automatically and instantly.

Meanwhile regarding the bokeh effects of Portrait mode on iPhones, among others, have shown the potential of software to emulate the effects of a larger sensor when required. I suspect that this is only the start of developments that harness the latest smartphones' depthsensing abilities.

In the future

I'm sure Google's expertise in machine learning will affect photography, and artificial intelligence will recognise what you're taking pictures of and apply even more sophisticated effects.

The pressure on camera makers to compete by improving their processors and software will only increase, and as phones develop their own unique skills, their status in our kit bags will increase. They'll become as vital to a serious shoot as a favourite body or lens.

Jon Bentley is a TV producer and presenter best known for *Top Gear* and Channel 5's *The Gadget Show*.

Do you have something you'd like to get off your chest? Send us your thoughts in around 500 words to the address on page 53 and win a year's digital subscription to AP, worth £79.99

In next week's issue

On sale Tuesday 30 January



See the light

Dave Kai Piper shares some illuminating tips on lighting portraits taken outdoors



Canon PowerShot G1 X Mark III

Andy Westlake reveals how this camera rewrites the rulebook for zoom compacts

Sony FE 24-105mm f/4 G OSS

Find out why Sony's new zoom is perfect for full-frame mirrorless shooters

Food for thought

Mark Benham whets your appetite with his tips on food photography



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LETTER OF THE WEEK



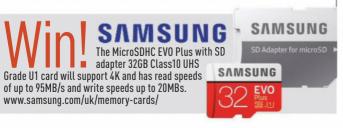
Brian's use of a lens hood helped protect his camera when it fell

In the hood

We would all accept that the primary function of a lens hood is to shield the lens from direct sunlight. Recently I came to appreciate another vital function. I was shooting a group of about 30 people with my Canon EOS 5D Mark III in Canada, using a lightweight tripod. As I was preparing for the shot, my foot got caught on one of the tripod legs and, before I could catch it, camera and tripod crashed to the ground. Thankfully the camera and lens were unmarked and in full working order; meanwhile the lens hood, which fell with full force on the pavement, merely had a graze on its underside. Its flexibility doubtless minimised the force of the impact on the camera itself. Had the lens hood not been in place, I am in little doubt that the camera would have been seriously damaged. Later I found that the CF card which was set to record Raw files had also been corrupted; fortunately the SD card for recording JPEG versions was fine. I was surprised that an impact could have done this to a CF card, and have not found anyone who can explain it. So, always use a lens hood as protection for vour camera. It certainly worked for me.

Professor Brian W Ellis

An interesting letter, and we always recommend using a lens hood where appropriate. Considering how much lenses tend to cost, it's a cheap accessory which can well turn out to be a lifesaver – Nigel Atherton, editor



On her Todd

Recently my father-in-law sent me a copy of I See A City: Todd Webb's New York. In a type of 'Twilight-zone' moment, it arrived on the same day I bought the 16 December issue of AP, which carried a review of the book. I was surprised that the reviewer Geoff Harris didn't mention that Webb, unlike Cartier-Bresson, was using a large-format camera. The earlier photographs were taken with a Deardorff 5x7in view camera mounted on a tripod. Webb eventually started using a Speed Graphic. This resulted in images with great clarity and detail, and upright verticals! Street photography using LF must have been quite a challenge.

Kris Lockyear, Hertfordshire

Hands up to this one, Kris. I should have pointed it out, although I had limited space. I too am amazed at what film photographers achieved with very unwieldy gear – Geoff Harris, deputy editor

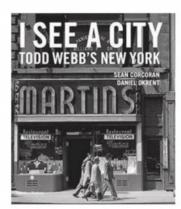
Instant camera magic

For our 40th wedding anniversary recently, my hubby bought me a Polaroid Originals OneStep2 camera. Paul Coen said in Readers' Favourite Of The Year (AP 23-30 December 2017) that his OneStep2 is giving him 'so much fun' it's edging out his Sony Alpha 6500. I know how he feels. Since receiving mine, my Panasonic Lumix DMC-FZ1000 has sat forlornly in my camera bag. Digital is a form of instant photography, in that we have an image review seconds after the shot is taken. But with instant photography we get it all - an important hard copy photo rather than an image simply stored on a card/disk. And that can only be a good thing.

Louise Anderson



Instant cameras, like Fujifilm's SQ10, give an all-important hard copy photo



Kris marvels at what Todd Webb achieved with an old-school camera

Instant cameras continue to do well. I also enjoyed using the Fujifilm Instax Square SQ10 instant camera, which I reviewed in AP 7 October 2017, although focusing can be a bit hit and miss for my liking. I guess I have been spoiled with my SLR! – Geoff Harris, deputy editor

He's Ad enough

I feel AP has got it right with layout, contents, etc. and is well thought out. I miss your sister magazine. What Digital Camera. and would like to see a bit of WDC creeping in to AP. Reviews of telephoto lenses, for example, could include more information on actual image quality (for and against) as well as the usual stuff about build, performance and so on. The inclusion of more compact camera reviews would also be welcome, as I am sure a lot of readers must use them. Finally, can you try to persuade some advertisers to change the layout of their ads at least six times a year as they risk readers skipping past them – it becomes monotonous to see the same adverts week on week. There was a typo in one of the ads that ran for ages and it has only just been corrected.

M. McInnes

Thanks for your long letter, which we edited for reasons of space. You make some good points, which we will pass on to the reviews team, although the compact camera market has really shrunk in recent years. As for advertisers, they specify the look of their ads, but we are on hand to help with ad design if required (and I am sure some advertisers will be reading this!) – Geoff Harris, deputy editor



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Technique Low-LIGHT PHOTOGRAPHY

How low can vou

Low light can still yield great images - landscape and travel photographer David Clapp shares his top tips and techniques



DAVID'S TOP TIPS FOR GETTING READY TO SHOOT

Camera settings

To ensure you get the very best imagery, you need to check your camera settings so that you shoot in raw and the camera's meter is set to a matrix or evaluative mode. Shoot in

manual mode, choose an

appropriate aperture and then set the shutter speed as required.

Colour balance

Colour balance can be critical when shooting in low light. Most modern LCD screens are very accurate. Ensure you have a colour balance that matches the scene (I recommend using the K setting), and then dial in a value.

White balance Color temp. **AWB** 4 K + 2600 +-

Tripod

All low-light photography will require either high ISOs or a tripod. Unless you are shooting silhouettes into the light with a high ISO, then a tripod is essential kit. It goes without saying that better-quality tripods will perform well in adverse weather conditions.







David Clapp

With 12 years as a leading UK professional landscape, architecture and travel photographer, David Clapp classifies himself as a jack of all trades. Making a hit in the early

digital days, he pioneered work in moonlight, astro and infrared. He is represented by Getty Images, Canon UK, and leads workshops worldwide.

ne of the most critical lessons I have learned over the years is how our use of light defines us as photographers. Those who wait, with composition set, for the unusual or the sublime, will reach further and deeper into our hearts than those who simply collect. Composition is the stage and lighting is the performance. Those who favour light for composition will often fail to connect, just as those who choose composition over light, leave us to imagine what could have been. Let me take you to a quieter time of day, to an intricate but richer world of darkness and of light.

When first starting out in photography, it is fair to say that timing is the most overlooked fundamental. Waterfalls and receding waves aside, it is also one of the least spoken about and can be quite confusing. Ever packed up, driven away and then seen the remarkable scene unfolding in the rear view mirror? On the dawn workshops I lead, I am often asked 'Why are we leaving so early?' But when the rich predawn glow leads to a fairly unexciting sunrise, everyone is glad they made the right choice and came



Filters

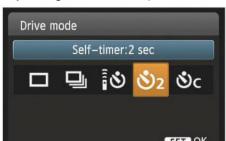
Although not absolutely essential, graduated filters will help to control the light – especially

when the contrast of the sky is excessive in comparison to the ground.

Graduated filters are great for controlling light in the landscape, but align them carefully so their use is invisible.

2-sec timer

Use a remote release or the self-timer mode for hands-free shooting. The use of an additional feature, Mirror Lockup, can only benefit, especially if your setup is not the most stable. This keeps your hands off the camera so you can gain maximum sharpness.



Technique Low-Light Photography

Five simple steps for shooting in low light

Step1 Composition

Do not tether yourself to a tripod at the start. Move around, find the correct height and focal length and then chop the air – 'the tripod goes here, at this height.' All the decisions have now been made. No more tethered frustrations thinking you can't see the shot.

Step 2Aperture

Next, make some decisions about your composition – does it require a larger depth of field such as f/16? If so, it will let less light into the camera. If you are photographing from a viewpoint, or your subject is further away, then you can choose a wider aperture like f/5.6.

Step 3Set your shutter speed

Simply look through your viewfinder and set the shutter speed so the exposure needle is in the middle of the exposure scale. This doesn't necessarily mean you will have the right exposure, it just means you have set the camera to a good starting point.

Step 4Live View mode

Engage your camera's live view and switch on your histogram. This will give you an accurate render of the colours in each channel. You will regularly see highlights clipping out in the red channel at sunset, so ensure a 3-channel histogram is switched on.

Step 5 Test shots

Take a test shot based off that exposure setting, and check the result. If the image does not match what you see, then it is usually an exposure or a colour balance issue. Nudge your shutter speed so that the highlights are very close to clipping, or apply a filter for the sky and lift the exposure even more.

along. What we are identifying here is that there are many valuable moments outside the obvious and we need to learn not only when these occur, but also when they are about to happen.

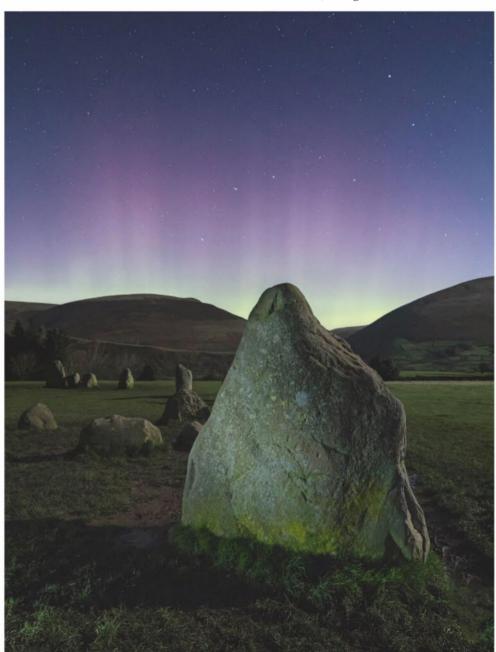
My one rule for shooting landscapes is: 'It's best to stay put until you need a torch.' Cameras now have wonderful dynamic range to be able to see into those shadows, so use them to their full potential. On the coast, the beach becomes deserted just when the light and dark come together magically and balance perfectly. It's something I learned on clear evenings, shooting the south Devon coastline. The best shot was often taken 40 minutes after sunset, when the horizon was glowing orange and the sky a deep blue. There are some important factors to consider before changing the topic to shooting in a city, so let's look at these.

Shooting at the coast

First, you will reach a point when, for around 10 minutes, everything in the scene will come together. Saturation and contrast will balance before twilight gives way to the night. Resist taking a picture until all aspects come together. There is no point pressing the shutter until this crescendo is reached. Why? It will just look like daylight, without anything special. Moments later, once the balance is lost, the shadows become jet black and the connection is lost, as the eye becomes confused by the lack of detail. No ISO increase or extended shutter speed can compensate for this inevitable light failure, so switch on the torch and go home.

Your camera direction in relation to the sun will greatly influence the timing in low light. If you have a viable composition in the opposite direction to the sunset, the light will

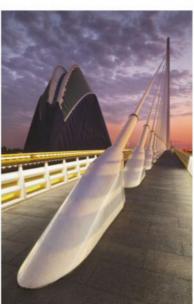
Aurora over Castlerigg Stone Circle, Keswick, Cumbria Canon EOS 5D Mark IV, 24mm, 25sec at f/8, ISO 3200





fall much faster as the earth spins away. If you are lucky to have two compositions, one in each direction, you will literally become a military gunner, spinning the camera as you turn into and away from the light. Spend your time looking at the shadows between shots. Can you still see them? This is crucial.

Then let us not forget the power of silhouettes. Let's throw the 'shadows rule' in the bin now and embrace a far simpler compositional approach. Shooting into the light when the contrast is extreme can simplify things in a magical way by abandoning the need to retain detail in the shadows. Think of cracked branches of a tree against twilight, silhouetted and reflected people on a glassy beach, or a long-lens shot of the Big Ben tower against the rising moon. With this rule you can simply expose for the light and throw the subject into the black with great effect.



The Agora as seen from the park bridge in Valencia, Spain Canon EOS 5D Mark II, 24mm, 5sec at f/11, ISO 100

3 tips for the low-light city photographer

When working in cities it's a very good idea to spend time walking around your subject during the day – not only to work out camera angles, but also to ensure your own safety. Using London as an example, a tripod will alert security and lead to police interaction if you try to fight your corner, so find out what you can and cannot do in advance. It's not worth the hassle.

Expect to win and lose on your first low-light shoot, especially if you are learning the area. You may find that unsightly sodium street lighting is so overwhelming past a certain time, that you will abandon the night shoot and work both at dawn and dusk, using smaller windows of opportunity to get all your subjects covered.

Try to coincide your city shoot with a full moon. Nothing looks more beautiful than a full moon rising over the cityscape, so try to plan your angles using a smartphone app, such as The Photographer's Ephemeris or PhotoPills. The power of the moon acts like a gigantic flashlight, so the sky never gets truly dark, which helps lift those deep blues and provide a fabulous backdrop.

Technique

Now let's consider the technical pointers. Ten years ago, in digital's infancy, dynamic range was a much bigger issue than it is now. My first digital camera, the Canon EOS 5D Mark I, had a nine-stop dynamic range. But now all digital cameras far exceed this, with at least 12-13 stops, even for crop sensor cameras. This means a huge range of detail is captured. Remember, all of a digital camera's recovery is in the shadows, with very little recovery available in the highlights, so always ensure that the highlights are not blown.

As we often deal with excessive contrast, graduated filters can help immensely. Often the brightest part of the image for the landscape photographer is the horizon, so graduated filters can keep things under control and extend options. Exposure-blending in low light, by taking a range of exposures on a tripod, can help fix contrast later on in Photoshop. It can help get areas of the picture under complete control and improved on.

Shooting in the city

The low-light city photographer has the same issues and perhaps more to contend with. With a mix of



natural and artificial light, low-light photography decisions are even more critical. We also have to include multiple colour balances into the timing, but the principle is still the same.

Low-light cityscapes can be spectacular, and over the years, I have found that certain locations, such as the metropolises of Hong Kong, Singapore and Shanghai have such a vast height and array of light sources that they can be photographed all night, literally.

Two photographers capture the evening sky with the moon setting behind them, Eystrahorn, Iceland Canon EOS-ID X, 70-300mm, 1.6sec at f/8, ISO 800

Other European cities become overwhelmed with heavy orange sodium lighting as soon as the light starts to fade, so it's very important to take this into account.

Remember, when the flash-snapping crowds empty a sunset viewpoint – after an uneventful orangeade-coloured ball sinks into the sea – perhaps the magic that didn't happen is yet to come. By embracing the edge of darkness, you'll push your portfolio into a new and exciting world.



Low-light panoramas

Low-light panoramas require a significant amount of time and planning but are well worth the extra thought when you see the end result. The first and most crucial point is to consider your timing very carefully.

If you have to shoot seven 30sec images, that's 2mins 30secs of exposure time. If you consider at least 10secs in between each shot to recompose the next frame, that's more than one minute more. The light between the first and end frames can be as much as five minutes, so the light can drop significantly between the first and last frame, making a very odd end result.

Step 1 Unless you are working in a tighter space, I suggest using a focal length of at least 50mm for a panorama to avoid a rather stretchy or bulging look. I prefer to work further back with even longer focal lengths for most of my images, and have recently got into shooting each frame at nearly 600mm, for a very small but detailed slice of the view.

Step 2 Work out the start and end points of your panorama. Using a longer lens will make for a super highresolution shot, but it will take many more exposures to accomplish.

Step 3 Turn on live view and engage the histogram. Pan through the scene to find the brightest part of the view and set your shutter speed to get the best exposure based on this zone. You may start out thinking the panorama will be underexposed, but you will soon swing into the correct exposure.

Step 4 Engage the rule of thirds grid view in live view. It's a common misconception that panoramic heads are needed for scenic work, but all you need is the grid switched on to provide a third overlap between each of your exposures.





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The Centre of the State of the

Pushing his equipment to the limit, **Ian Plant** has mastered the art of low-light wildlife imagery. He reveals the stories behind some of his most successful shots

lways shoot with the sun at your back' is a mantra popular with many wildlife photographers. Not me. While front lighting can be attractive and is easy to work with, I prefer to photograph my wildlife subjects at the very edge of light, pushing the limits of my equipment and my creativity. Extreme and low-light wildlife photography presents many unique challenges, but the rewards for your efforts are moody and expressive images that really stand out from the crowd.

Lion, Maasai Mara, Kenya. lan used flash to selectively illuminate the lion in the grass, and used a wideangle lens to include its surrounding environment Canon EOS 5D Mark IV, 16-35mm, 1/60sec at f/3.2, ISO 640



I have been a professional photographer for 12 years, and along with landscape and travel photography, wildlife is one of my specialities. I love it because it adds an expressional dimension that is often missing when shooting landscapes; with wildlife, your subject's pose, behaviour and expressions can enhance the overall visual design of your photographs, and connect emotionally with viewers in a way that is completely different from other types of photography. With all of my imagery, however, I look to move beyond the literal, getting creative with composition, light, and exposure, to transform my subjects into something artistic and



unexpected. When shooting wildlife, I work with extremes of light to help me create images that bring my vision to life.

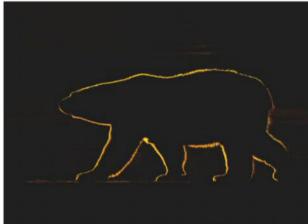
Aim towards the light

When working in strong light, I shoot at extreme angles for dramatic effect. For this shot of a polar bear (see right), I waited until the setting sun was low enough for the light to be warm and colourful, but still high enough for the light to be much brighter than the shadows, resulting in a significant amount of contrast. I aimed my camera towards the light, creating strong backlighting. I intentionally underexposed the image to show the highlights but allowed

everything else to fall into deep shadow, revealing only the colourful rim lighting around the edge of the animal. The outline is instantly recognisable.

Work with flash

I love working in low light as well. I recently went on an extended backcountry trip to the Simien Mountains of Ethiopia, home to the beautiful gelada monkeys (see left). These grass-eating monkeys have thick golden manes and distinctive red chest markings, making them ideal wildlife subjects. One evening, a large troop of geladas came down to a dramatic wilderness gorge, getting ready to climb down the cliffs to their nighttime



Polar bear, Arctic National Wildlife Refuge, USA. Ian waited until the setting sun was low enough for the light to be warm and colourful. Canon EOS 7D Mark II, 200-400mm with built-in 1.4x extender, 1/1000sec at 1/6.3, ISO 320



roost. I took many pictures of cooperative geladas poised on the edge of the cliff overlooking the gorge, using fill flash at low power (-2 or -3 flash compensation) to gently illuminate the animals against the darkening landscape under a dramatic twilight sky. I have found that the combination of creative exposure and supplemental light can yield moody and expressive wildlife pictures. When working with flash, I often use a number of accessories to avoid an obviously 'flashed' look: a flash bracket allows me to angle the light, for example, and attachments such as a flash grid or snoot allow me to narrow the flash beam so that I can selectively illuminate my subject. It's always worth experimenting.

Illuminate the subject

One evening, while photographing lions in Kenya, I found a male lion resting under stormy skies (see page 18). I chose a dark exposure (-3 exposure compensation) to capture the gloominess of the twilight sky, while allowing the landscape to fall into shadow. I used flash to selectively illuminate the lion in the grass. When a gap with a provocative shape appeared in the clouds above the lion, the composition finally came together. I was close enough to the lion that I could use a wideangle lens and capture the entire scene.

Add creative curviness

One of my favourite wildlife photo destinations is the rainforest of

Elephants, Etosha National Park, Namibia. Photographers can use composition and exposure to 'alter' the reality of a scene. Here lan ensured that the elephants were in shadow so only their reflection appeared Canon EOS 70D, 70-200mm, 1/320sec at f/3.5, ISO 100

Sumatra in Indonesia. Not much light penetrates below the canopy, making wildlife photography in the forest interior difficult. I had a lucky close encounter with a mother orangutan and her baby as they swung by me on their way through the forest (see bottom left), so I reached for my fisheve lens to add some creative curviness to the photo. I underexposed the background to emphasise the gloomy jungle environs and to minimise visual distraction caused by bright highlights where the sky was showing. I used my flash at low power to selectively illuminate the orangutans, bringing out the brilliant orange colour of their hair, making them stand out from the dark background.

Try altering reality

For the image of elephants crossing in front of a water hole at sunset (see above), I chose a dark exposure, obscuring the elephants and focusing the viewer's attention on the sunset sky and reflections.

Angle is very important when photographing reflections; here, my chosen angle of view created some 'cognitive dissonance'; the landscape and its reflection don't seem to match, as the elephants responsible for the reflection are deep in shadow. This is a good example of how a photographer



Orangutans, Sumatra, Indonesia. Creating wildlife photographs in the forest interior is difficult. Ian used his flash at low power to selectively illuminate the animals, bringing out the rich colour of their hair Canon EOS-1D X Mark II. 8-15mm fisheye lens, 1/40sec at f/9, ISO 400, flash



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Egrets, J.N. Ding Darling National Wildlife Refuge, USA. The apparent visual mismatch between the birds and their reflections is caused by the choice of camera position Canon EOS 5D Mark III, 500mm, 1/500sec at f/9, ISO 800

can use composition and exposure to 'alter' the reality of a scene, creating a more interesting presentation for the viewer.

Use a wideangle lens

King penguins in the Falkland Islands are very tolerant of humans. In fact, if I stayed low and didn't move much, the penguins walked right up to me. For this shot (see below), I got on my knees and used a wideangle lens, handholding the camera almost at ground level while using live view to compose. I waited for the three penguins to face one another, firing my flash at low power to illuminate the animals against the darkening twilight sky.

Make the most of dust

I love shooting through what I like to call 'atmosphere,' which is basically particles in the air that scatter light, including things like fog, mist, or dust. Atmosphere softens the light - having a profound impact on light intensity and colour - and can also help to separate a subject from a busy background. For this image (see above), a bison is giving itself a 'dirt bath' stirring up plenty of dust into the air. I selected a position where the dust would be backlit by the setting sun, and then waited for my subject to do something interesting to complete the composition. When the bison looked straight up from the ground and bellowed, everything came together perfectly. The backlit dust helps add a colourful and mysterious look to the image.



Whether hanging over the rim of an active volcano, braving the elements to photograph critically endangered species, or trekking into the wilderness to places most people will never see, Ian Plant travels the globe seeking out amazing places and subjects in his quest to capture the beauty of our world with his camera. lan is Managing Editor of Outdoor Photography Guide, a Tamron Image Master, and author of numerous books and instructional videos You can see more of his work at www.ianplant.com

Penguins, Volunteer Point, Falkland Islands. The penguins were very tolerant of humans, allowing lan to use a wideangle lens to capture a relaxed moment Canon EOS 5DS R, 11-24mm, 1/30sec at f/4, ISO 400, flash

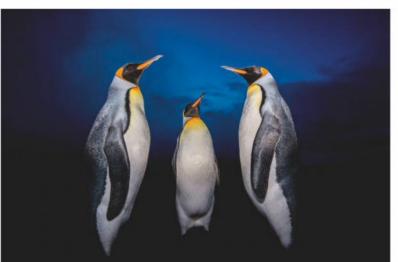


Simplify the composition

This arrangement of snowy egrets (see top left) seems like something out of Hitchcock's film *The Birds*. The apparent visual mismatch between the birds and their reflections, caused by my choice of camera position relative to the scene, creates a picture that is unexpected, and one that tells a story to the viewer. I chose an exposure that ensured the white birds weren't overexposed, and allowed their busy surroundings to fall into shadow, which helped to

simplify the composition and focus attention on the birds. The dark exposure also helped to emphasise the eerie mood I wanted to convey.

So, the next time you are out taking photographs, don't be afraid to push past the 'safe' light so often utilised by others. Delve deep into extreme and low-light situations. If you embrace the technical and artistic challenges offered by these conditions, you will end up with shots that challenge perceptions and show viewers something they have never seen before.









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ave you ever looked at a photograph you've had printed and felt a little bit of disappointment? Perhaps the colours weren't as vibrant as you wanted or was there too much contrast? Or not enough? You've got a great camera, you've done your research, you've printed in high quality – the last piece of the puzzle is the monitor and yours may be letting you down.

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Photography professionals have worked with EIZO ColorEdge monitors for years, it's almost an industry secret. The reasons why they use them is to do with the accuracy and vibrancy the monitor gives you: That beautiful landscape, the close-up wildlife shot or the black and white portrait image displayed in all its glory. The complexity of how the monitor works

is what gives you this accuracy. It's what gives you all the things you may have been missing... until now:

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Ease of use and professional quality

EIZO ColorEdge monitors come in three standard ranges: The Professional CG range including 4K, high definition and HDR, an entry level CG range and the more affordable CS range with 99% Adobe RGB gamut*, Digital Uniformity Equaliser, smooth colour gradation and five-year on-site warranty. The CS range has the same tonal responses as the CG monitor range,but for a lower cost. The ergonomic design with useful handle means it's perfect for on-site work. Monitors come with EIZO ColorEdge's own ColorNavigator calibration software which is easy to install. EIZO's CG ranges come with an inbuilt sensor and monitor shading hood.

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The streets ncisco

Still enthusiastic about photography at 93, Fred Lyon talks to **Geoff Harris** about the historic. low-light masterpieces in his new book San Francisco Noir

an Francisco is one of the most influential cities in the world - an atmospheric place forever associated with the gold rush, gumshoe movies and Chinatown, beatniks and hippies, and more recently, the triumphs and excesses of Silicon Valley. Few photographers have a deeper knowledge of the city and its subcultures than Fred Lyon, a widely published documentary and portrait photographer who is still going strong at 93. Fred, who is more articulate and insightful than a lot of photographers half his age, has just released San Francisco *Noir*, a new collection of his classic black & white film images.

Moody night and low-light shots of the streets (and street life) of San Francisco dominate this fascinating chronicle of 1940 to 1960, at a time

Left: A classic 'noir' shot from downtown San Francisco. Using a tripod allowed Fred to get some cool long-exposure effects

Below: This is also a music city. **Performer Michelle** Johnson sings here at a jazz poetry reading

affordable and portable location lighting were something that Fred and his peers could only dream of. Of course, it helped to have such a myth-making metropolis to shoot. As Fred explains in his introduction to the book, 'What a town! Bursting with energy, San Francisco seized fistfuls of its most doubtful characters, anointing them with instant celebrity - and morality be damned... Just turn up the collar of your trench coat, settle your fedora low on your head and strike a match to that cigarette dangling from your mouth. You're in.'

when very high ISOs or easily

Fred is not surprised by the enthusiastic reception San Francisco Noir has received, but this is more to do with his age and laconic character than an inherent lack of modesty. Twe been at this so long that few things surprise me when it comes to publications. Everything starts out being wonderful, then the publishing requirements are satisfied and I'm not very happy. But $San\ Francisco$ Noir delights me as the old black & white images are so well digitised and the book is beautifully designed. The young designer disappeared with a bottle of scotch or maybe bourbon over a weekend and did a fantastic job. He picked all my favourite images, the ones that don't always make the cut.'

Fred first became interested in photography as a teenager, but his reasons weren't particularly lofty. 'I knew a guy who had a camera and he always seemed to have



Fred's cameras and lenses

'When I came back out to the West Coast after spending time in the navy and in New York doing fashion, I used Rolleiflexes. Many images in the book were taken with Rolleis, until Hasselblads appeared. Hasselblad enabled me to change the film cassettes and used a wideangle lens, a more standard 80mm and one of the first telephotos, which I think was a 150mm. As I started to get busy, I ended up buying terrifying amounts of specialised camera gear, too.'

Despite his long history in film photography, Fred is very open-minded about digital photography and loves his Nikon D300. 'There are a lot of people who think I should be clinging to the darkroom experience but I have spent enough time in there, and I never claimed to be great at film developing. Sometimes I get a whiff of the chemistry and it stirs something in my memory, but for me, digital has been wonderful. Indeed, if it hadn't have been for the digital revolution, this book would never have been published. We have been able to rescue a lot of images which suffered

accidents in processing and wear and tear on the negatives in the 60-70 years since they were taken.'





cute girls around him. I thought that if I had a camera, maybe I'd get girls, too. By the time I discovered that a camera wasn't the answer to getting girls, I was already hooked.'

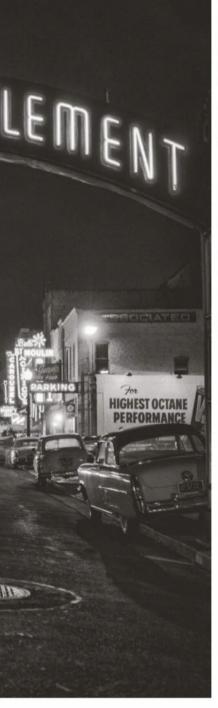
A flick through Fred's book would suggest that classic film noir movies, such as *Double Indemnity*, and documentary photography gods, such as Brassaï or Doisneau, influenced him, but this is only partially the case. 'At the beginning of my career working for magazines, I was lurching forward and had no time to think about influences, but looking back I can see that Arnold Genthe cast a spell. He was way ahead of the curve in terms of his Chinatown images, and I look for his vision every time I go there. He practised street photography before

the term existed, and was

essentially a portrait photographer. Street and documentary photography is essentially about people at all levels.'

Fred cut his teeth working for newspapers and magazines, including *Vogue* and *Life*. The importance of careful, elegant composition was drilled into him from the start. 'I knew I wanted to make imagery that was aesthetically pleasing and well composed, with strong graphic shapes.' He also learned to turn technical challenges to his advantage, as can be seen in the book's more overtly 'noir' shots.

'The San Francisco fog and night are very useful for covering up the less attractive works of man,' he notes wryly. 'They also enable you to add a sense of mystery and romance, which I also got from my time when I worked as a fashion



photographer in New York. My wife is a former fashion model. I had a continued interest in fashion photography. There is something about the optimism and romanticism which has inspired me and kept a smile on my face.'

Pragmatic approach

Fred's choice of image format was dictated by pragmatism as much as aesthetics. I shot in the square format for a long time, but got bored. Also, I discovered I was being paid by magazines on a page rate. If I made horizontal pictures, maybe I'd get paid for a half page, as getting a spread was rare. So I learned to force verticals, to try to get the full-page rate. The vertical format also suits San Francisco, so it worked out well for me. It is still the case where a lot of documentary



and street photographers become "stuck" on landscape format and they should try other approaches.

When it came to taking night shots in the notoriously foggy city, or low-light shots in nightclubs and dive bars, Fred just had to work it out as he went along. 'I shot Kodachrome at the beginning which had a film speed of something like ASA 6! I have had a million young photographers look at my black & white work for clues and I have to say, it wasn't easy technically. I soon learned that my tripod and my wastebasket were my best friends - the tripod enabled me to take longer exposures in low light, and the wastebasket for editing my work! Working in fashion and for magazines like Life also taught me to always make extra exposures, just in case; while working for Sports Illustrated taught me how to work fast. With sports photography, you had to get the right exposure at the peak of the action. When I started out there were no exposure meters, either; you just had to figure it out.'

Fred recounts how his varied magazine commissions presented him with a range of photographic challenges, so he had to learn quickly on the job. 'I even had to figure out aerial and underwater photography and ended up spending a lot on specialist gear I didn't use again. I learned something each time, though.'

Jazz hands

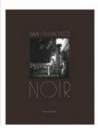
San Francisco Noir is full of classic sights and scenes, with trams, atmospheric shots of Chinatown, steep, misty streets with elegant old houses and dive bars. Jazz fans will love the book as it contains lots of evocative shots of jazz clubs and

Above: Steep hills, trams, handsome old houses – this could only be the city of San Francisco

Left: Fred has long been inspired by the ethnic mix of the city, seen here in another masterful long exposure image



Fred Lyon, 93, is a fourth-generation San Francisco native who has spent much of his career shooting the city for newspapers and magazines, including Vogue and Life. A new book of his classic black & white images, San Francisco Noir, is available now. ISBN 978-1616896515, Princeton Architectural Press, £30.



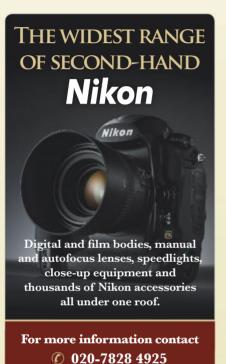
performers - the city has long embraced this hugely influential musical genre, and jazz was loved by the beatniks and hipsters who preceded the whole Haight-Ashbury scene. San Francisco is also the birthplace of the Summer of Love. There aren't any hippies in the book for a simple reason - it is about Fred's black & white photography, and he started shooting colour around 1960, a long time before the golden age of the Grateful Dead and Jefferson Airplane. 'From 1960 onwards it was like someone flipped a switch and colour photography really caught on. About 10-12 years ago the whole photography market changed, and I realised I needed more cash flow. There was clearly a demand for old black & white prints from collectors, so I grabbed my shoebox of negatives and this led to the book. It's good to see this renaissance of interest in black & white. Those of us who came from that era had to learn to see in black & white, and this is still important in the digital era too - it's not just about getting rid of colour.'

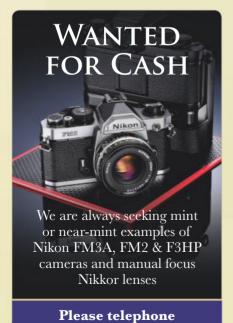
San Francisco has changed exponentially since Fred first started shooting the city seriously. Physical mobility issues mean Fred can't go out and about like he used to, but he still loves the place and is still passionate about photography. 'I miss the kids playing in the street. Maybe they are inside watching TV or on their iPhones. But a lot of the old San Francisco is still there. They can't take the fog away, the light is different here. The bridges won't quit, and we still have these steep hills and streets and cable cars. Everything has changed a bit but all the cities I love have also changed. I wouldn't want to live in a city that wasn't in some process of change or growth. I complain about the traffic and lack of parking, but San Francisco still has the best food. The city is the gateway to the Pacific and is very ethnically diverse. At my age, food is my last temptation!'

Fred claims that image making has been an 'itch' he has to scratch, even now. 'I wake up in the middle of the night thinking about how I could make a particular picture. I couldn't be more surprised to still be around at this age... at one time I felt anyone over 30 would probably want to be put out of their misery. But of course I've changed my mind! I am having such a good time and good things are happening. I am still so excited by the possibilities of photography.'

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In the footsteps of giants By Sarah Skinner

Wildlife photographer Sarah **Skinner** set herself a hard task to execute this beautiful backlit photo. Her patience and persistence paid off

arah Skinner first travelled to Africa with her husband Andy in 2004, and since then has been obsessed with photographing African wildlife. In more recent years, the couple have specialised in leading photo safaris to Botswana, developing a greater appreciation and understanding of the animals and locations with every visit. It was in July 2016, on returning to one of the couple's favourite waterholes, that Sarah devised the idea that

culminated in this awardwinning photograph. I have always found jackals to be fascinating subjects,' she says. 'When you watch them out in the wild they are such bold creatures and cheeky characters that are always up to something.'

It had been a very dry year, and by July many of the local water sources were depleted. However, this meant many more species were coming to drink at this particular waterhole, including lots of elephants. Sarah continues,

'Andy and I spent several days there and it wasn't long before we noticed that the jackals would come every day in the late afternoon, winding themselves around the legs of the elephants, hunting these little Cape turtle doves that were trying to get to the waterhole to drink. I found it fascinating to see how these jackals were being so bold. They weaved between the legs of these huge great elephants; it just didn't faze them at all.'

Backlight challenge

The elephants kicked up great clouds of dust as they approached, and Sarah immediately saw the potential of capturing an image against the dusty orange background at sunset, with the jackals dwarfed by the legs of the elephants. I wanted to get them at the moment they were between the elephants' legs,

because you had such a small animal framed by such massive creatures, but I also wanted to get them catching the doves because that would tell a story of their behaviour.'

Sarah knew she had set herself a difficult task. 'Getting all those aspects to happen at once in perfect backlighting, in just a 15-minute space, was not so easy!' she laughs. 'There were many failed attempts. I had the jackal maybe in the right place, in the right light, but then all of a sudden the elephant would move forward or back and all you'd see would be the tail or the head. So, there were a lot of attempts where it wasn't right for me: the light wasn't right, the jackal wasn't in the right position, or the elephant had moved.'

After numerous attempts, Sarah and Andy drove to the waterhole on their last

Sarah Skinner

Sarah Skinner is an award-winning, UK-based professional wildlife photographer with more than a decade of wildlife photography experience. With her husband Andy, she leads photographic safaris to Africa, India and North America. She also spends the winter months leading groups to photograph the aurora borealis, working for Lights Over Lapland in northern Sweden. For more on Sarah and Andy, visit www.imagesofwildlife.co.uk.





'[The jackals] weaved between the legs of these huge great elephants; it just didn't faze them at all'

afternoon in Botswana. It was make-or-break time. They parked some distance away, facing west, directly in line with the setting sun to maximise the orange backlight they hoped to see once the elephants arrived. Sarah positioned her Nikkor 500mm f/4L VR lens on a Wimberley head, fitted to a Kirk window mount. She used a Nikon D500, so the crop factor of the smaller sensor increased the working focal length to 800mm. From this distance, she was far enough to get the low perspective she needed.

Low perspective As the sun slipped lower in the sky, Sarah saw a jackal

with a dove in its jaws. 'He was just trotting around with these feathers in his mouth and a lot of elephants had just arrived while the sun was setting, creating this plume of dust which was suddenly backlit - casting this most amazing light behind them.' At that moment, the jackal trotted between one of the elephant's legs and Sarah pressed the shutter button. She glanced at the monitor and realised that this time she had captured the scene exactly as she had always intended. 'About three or four minutes afterwards, the light went flat, the sun went in, so I nailed it just in time. On the last day as well!'

Sarah decided to call this image 'In the Footsteps of Giants', and it won top prize in the mammals category of the prestigious GDT European Wildlife Photographer of the Year 2017. The image combines two of her greatest photographic passions -African wildlife and backlighting - and she offers the following advice for low-light shooting: 'Shoot with as wide an aperture as possible and stabilise your camera to enable shooting at the lowest possible shutter speeds, depending of course on your subject's movement. When shooting backlight be careful with lens flare and use manual mode to give you full control of the final image. Above all, try to get as much right in-camera, rather than relying on too much post processing.'

SARAH'S FAVOURITE KIT



WITH THE introduction of the Nikon D850, Sarah recently updated her kit, purchasing this new full-frame body to replace her D810. She says her second body will continue to be the croppedsensor Nikon D500, while her preferred lenses are the Nikkor 500mm f/4L VR, Nikkor 80-400mm f/4.5-5.6G VR zoom, the 24-70mm f/2.8 standard zoom and a 1.4x converter. Sarah is currently in Swedish Lapland, leading groups on aurora photo tours and testing out the D850's low-light capability for the first time in an Arctic winter.

Technique MOVEMENT IN THE LANDSCAPE

Mountains from molehills

Looking for creative ways to shoot landscapes? **Chris Dale** shows how intentional camera movement can transform even ho-hum scenes

CHRIS'S TOP TIPS FOR SCALING UP SMALL HILLS AND MOUNDS



Kit

I use a Canon EOS 6D with a Tamron 24–70mm lens, but any camera and lens combination will work. On brighter days, a neutral–density filter is handy to get longer exposure times. I have a 10–stop ND filter but found variable ND filters are a good, affordable alternative offering far more control.



Camera settings

The technique works best in overcast weather, which means you won't necessarily require any filters to lengthen the exposure time. With a narrow aperture and low ISO, I could achieve an exposure of 1–3 seconds while angling the camera back and forth to try and make a series of slopes and ridges.



Experiment

The pauses are as important as the movement during an exposure. Holding your camera in one position for varying lengths of time within the exposure will give more or less defined shapes that will help create the impression of layers of hills receding into a distant haze. It's all about experimentation to see what works.



A clear winter sky gives a colder feel. You can still recognise small hills from the golf course shown below Canon EOS 6D, 70-300mm, 1/2sec at f/45, ISO 100



Chris Dale

Chris Dale is a landscape photographer from Nottingham who focuses on his local area. Chris spends his time working on projects that capture the essence of a place in an abstract or detailed form. To see more of his work, visit www.chrismdale.co.uk.

y local Nottinghamshire landscape isn't the most exciting for a photographer, especially when you're used to seeing epic vistas posted on social media every week from people who can travel a lot or live with the Scottish Highlands on their doorstep. It's easy to get jealous and blame your surroundings for a lack of inspiration. But while there are plenty of forests and woodlands where I live, which I love to shoot, I wanted to create something different.

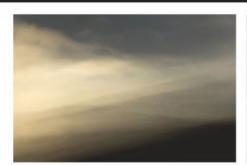
Over the past year or so, having tried some abstract techniques including multiple exposures and intentional camera movement (ICM), I began toying with the idea of making an altered landscape from my local area. I completed a couple of small projects last year and focused on the idea of creating something out

of nothing. But I wanted to do something bigger this time: I wanted to transport the viewer to one of those epic mountain vistas.

For me, the best thing about this style of photography and this project idea in particular is that the location isn't important. It is much more accessible for me to be able to



The starting point for many of my images



Be patient

Intentional Camera Movement (ICM) requires a lot of trial and error, so keep snapping away, honing the best types of movements and exposure times. The success rate can be pretty low – around one in 40 perhaps for me. It's important to shoot a lot and don't be too quick to delete things while out in the field.



Post-production

After some basic exposure adjustments in Lightroom, I usually go on to experiment with the white balance and split toning to get the colours I envisioned. This is then followed by gradients, vignettes and local adjustments to help pull out the mood and any details I feel should stand out more.



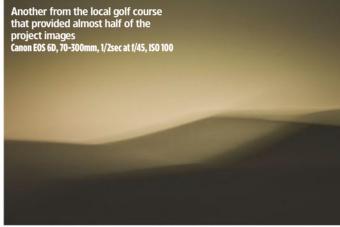
Presets

Lightroom presets are great for project work; you'll often make a number of similar adjustments to the images to achieve a consistent look and feel across the series. Saving some of these into presets can reduce the repetition and get you quickly to a good starting point.

Technique Movement in the Landscape

This and the bottom left image were taken minutes apart in the same location but have a very different feel Canon EOS 6D, 24-70mm, 3.2 seconds at 1/6.3, ISO 640





create images with nothing more than the smallest of hills or some gently rolling fields, and I am not so reliant on weather conditions.

Getting started

The project really started one evening in late November when I just missed a bit of fantastic cloudy light and didn't want to come home empty-handed. So I started trying some ICM techniques on a nearby golf course. There were a few small mounds near a green and I decided there and then that I was going to turn them into a big mountain scene. Nothing beats getting out there and experimenting, but you need to have an idea of what you're trying to achieve with ICM or you'll just get a blurry mess.

All the images in this project are single exposures with nothing added or removed in post. I am not against doing this, but I don't particularly enjoy the workflow and don't think it would be the right approach

for this project. Instead, I experimented with contrast and colour adjustments.

After loading the shots onto my laptop and beginning to process them, I started to think that I really had something here. There are no rules in editing this type of photography, and I'm often quite bold and heavy handed, making big adjustments to match the feel I had in mind when I was out capturing them. You almost always need to inject some contrast back in to give the images a boost.

Lightroom presets are great for project work and particularly handy for ICM images, as many scenes can be overlooked at first glance but can really come alive with basic processing. Quickly applying this to all the photos before going through and flagging the ones you want to work on further can help you.

A project comes together

There were a few images from that first evening that became the basis of my new project, which was to be titled 'Mountains from Molehills'. Over the following few weeks, I concentrated on trying to make more and barely took a 'normal' photo. The difficulty is in keeping enough variety - it is easy to end up with a lot of very similar images with this technique, but I wanted to create different landscapes in different conditions, with a range of weather, light and mood. For this, you're still reliant on getting out at the right times. Even though you're shooting abstracts, the light still defines many aspects of the shot; for example, you don't want too much contrast between sky and land, so bright days are best avoided, and you can clearly see the difference between photos taken with clear skies or dramatic cloud.

After spending a couple of months on the project I finished with 15 images, which achieve what I wanted from an imagery point of view as well as helping me to look at my local area with fresh eyes.



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Reader Portfolio

Spotlight on readers' excellent images and how they captured them

Alex Farrow-Hamblen, Yarm on Tees



Having recently obtained a degree in Human Physiology (and currently studying for a degree in Dentistry), Alex is looking forward to photographing the people and

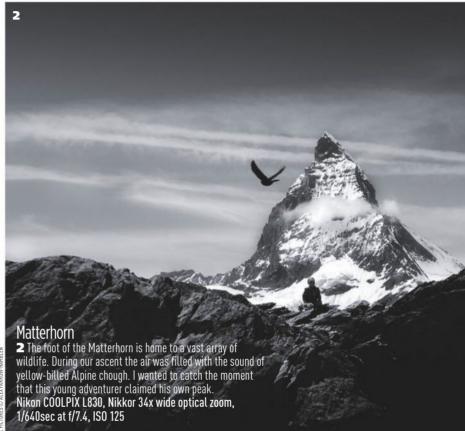
places he encounters on his travels. He enjoys shooting landscapes in monochrome, and feels that colour can often be a distraction. 'Black & white can emphasise natural light, add depth, accentuate shadow and aid the perception of scale,' he suggests. 'For that reason I feel that it lends itself particularly well to mountainscapes.' Alex feels that in a time when conversation is becoming a dying art, photography can be used to communicate with individuals of all ages, sexes, backgrounds and cultures. 'If it catches your eye, makes you smile or helps you identify with a particular place or person, you are on to a winner,' he says. 'Above all, it's important to have fun!'



Jungfrau Railway

This image was taken on the Jungfrau Railway in the Bernese Alps, Mönch, Switzerland. I wanted to capture the mystique and magic of the place and worked with the clouds that had plagued my shoot that morning. To accentuate the snowy foreground and the slope I laid myself down on the snow.

Nikon COOLPIX L830, Nikkor 34x wide optical zoom, 1/1500sec at f/4. ISO 125





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4 The Alpine lake of Riffelsee is the gem of the Gornergrat Bahn cog railway. I wanted to catch a glimpse of one of

nature's greatest spectacles, the Matterhorn, and to try something a bit different so I decided to include some of the tourists. I hope the subjects in

the shot enjoyed their day as much as I did. Nikon COOLPIX L830, Nikkor 34x wide optical zoom, 1/800sec at f/7.1, ISO 125



Panasonic Lunix G9

- sensor
- Venus image processor
- ISO 200-25,600 (expandable) to ISO 100-25,600)
- Up to 60fps burst shooting using electronic shutter
- 3in, 1,040k-dot vari-angle touchscreen
- Dual SD slots (both UHS-II) compatible)
- Wi-Fi and Bluetooth connectivity

We've waited patiently for Panasonic to deliver a highend, stills-focused mirrorless camera, and it's finally here. **Michael Topham** digests the G9's impressive spec

For and against



Superb design and handling



Effective 4K and 6K Photo modes



Well supported by Micro Four Thirds lenses





Solid and robust build quality



No in-camera panoramic mode



No battery percentage indicator



Burst shot mode descriptions aren't clear



Data file

Sensor Output size Focal length mag 2x Lens mount

Shutter speeds

Sensitivity

Exposure modes Metering Exposure comp Continuous shooting Screen

Viewfinder

AF points Video Power Battery life

Dimensions

Weight

Micro Four Thirds 60secs-1/8,000sec (mechanical) 1sec-1/32,000sec (electronic) ISO 200-25.600 (standard) ISO 100-25,600 (expanded) PASM, iAuto

5,184x3,888 pixels

20.3MP Four Thirds Live MOS

Multi, centre-weighted, spot -5 to +5 EV in 1/3EV steps 12fps (mechanical shutter) 60fps (electronic shutter) 3in, 1,040k-dot vari-angle touchscreen

3,680k-dot EVF with 0.83x magnification

4K up to 60fps at 100Mbps BLF19 Li-ion battery 920 shots (power save mode)

658g with battery and card

136.9x97.3x91.6mm

fter the release of the Lumix GH5 in early 2017, there was a quiet period during which nobody knew what direction Panasonic might take with its Lumix G-series cameras. In early November, the silence was broken with the news that the manufacturer was on the cusp of launching its most advanced stills-focused camera to date: one that would sit high above the two-year-old Lumix G7 and enthusiast-oriented Lumix G80. The G9's arrival coincides with the 10-vear anniversary of the Lumix G system, which is being celebrated in 2018.

Unlike the GH5, which is highly regarded by videographers for its broadcast-standard video capabilities, the Panasonic Lumix G9 is out to fulfil the demands of serious stills photographers. It positions itself beside the GH5 as Panasonic's flagship stills camera in the G series, and is competitively priced against its close rivals. On paper, the specification looks remarkably impressive, boasting a long list of functionality never seen before on a Lumix G model, which is bound to whet the appetite of existing G-series users and those after a well-specified, sub-£1,500 camera. Before revealing if it's an all-round success or not, let's look at the G9's core features.

Features

The Lumix G9 inherits the same 20.3-million-pixel Live MOS sensor from the Lumix GH5, which loses an anti-aliasing filter in order to maximise resolution. To create what is claimed to be the highestever picture quality produced from a Lumix G camera, several changes have been made to the processing algorithms to increase resolution





and deliver a 25% improvement in dynamic range. As with the GH5, the ISO range spans from ISO 200 to 25,600, with an extended lower setting of ISO 100, while shutter speeds range from 60 seconds to 1/8,000sec using the mechanical focal-plane shutter, or 60 seconds to 1/32,000sec using the electronic shutter. The advantage of using the electronic shutter is that the camera operates completely silently - however, there is the risk of seeing some distortion when shooting moving subjects because of the rolling shutter effect.

By pairing the G9's sensor with a new Venus image processor, the G9 reaches further heights in terms of speed. When shooting continuously in its AF-S mode, it can rattle out a burst at 12fps for as many as 60 frames in raw, or by activating the camera's electronic shutter, 50 frames at 60fps. Switching the camera over to its continuous AF mode (AFC) sees the burst speed drop, but to a highly respectable 9fps using the mechanical shutter or 20fps using the electronic shutter.

Once again, Panasonic has relied on its formula of contrast detection and Depth From Defocus (DFD) technology for focusing. The G9 is capable of acquiring focus as quickly as 0.04 seconds, which is 0.01 second faster than the Lumix GH5. The working range of the AF system spans -4EV to 18EV, and in addition to the above, there are three new AF modes. AF-point scope is designed to enlarge the subject temporarily to confirm the focus position, while focus switching clearly specifies the AF area position on the setting screen. The other new AF mode

loop movement – allows the AF point to be moved from one side of the frame to the other more easily. As if this wasn't enough, the G9 presents four AF case settings to choose from, which can be finetuned to adjust AF tracking behaviour depending on the type of subject you're shooting.

Exposure modes include the standard PASM quartet, backed up by Panasonic's Intelligent Auto mode for point-and-shoot duties. There are 22 creative digital filters plus three Custom settings. Surprisingly, though, there's no in-camera panoramic mode as seen on other Panasonic cameras.

One of the key features yet to be mentioned is the G9's new five-axis Dual IS II image stabiliser, which offers 6.5 stops of compensation to counteract camera shake when shooting stills or movies. It works just like the

GH5 in the way it combines two-axis stabilisation from the lens with five-axis stabilisation in the camera, but it should be pointed out that not every Leica DG and Lumix G lens is supported by this new IS system, and some will require a firmware update. The G9's new IS system has a second purpose in that it allows the camera to offer a new 80-megapixel high-resolution mode, whereby the sensor is shifted precisely between eight shots to create a single image with much finer detail. I'll touch on how effective it is in use later, but because of the short delay between frames, it'll be most effective when used to shoot stationary subjects.

As is to be expected, the G9 presents an excellent video specification. It can record 4K video (3,840x2,160) at



up to 60fps, with a bit-rate of 150Mbps and 4:2:0 8-bit colour output. Slow-motion footage can be shot at up to 180fps at full HD quality and Panasonic's 6K Photo and 4K Photo modes filter down from the GH5, allowing users to extract 8MP stills from 4K footage at 60fps or 18MP stills from 6K video at 30fps.

Above the G9's USB 3.0 Micro-B and HDMI Type-A interfaces, you'll find a 3.5mm microphone port and 3.5mm headphone socket behind their own rubberised flaps. Panasonic's new power-saving LVF shooting mode promises up to 890 shots per charge from the same DMW-BLF19E battery the GH5 uses. With this economy mode switched off, average battery life is expected to be around 380 shots. The G9's dual-card slots are both UHS-II compatible to handle the high data rates required, and there are Bluetooth and Wi-Fi connectivity options to easily pair and transmit images to mobile devices running Panasonic's sophisticated Image app.

Build and handling

The G9 has a larger footprint than both the Lumix G7 and the G80, while appearing less stocky than the GH5. Making a camera too small can be impractical and have a detrimental effect on handling, so Panasonic has avoided this by making the G9 around the same size as an enthusiast-grade DSLR. With its deep, ergonomic handgrip, there's ample space for those with

large fingers, leaving the index finger to rest comfortably on the slanted shutter button, which is united with the on/off switch rather than being offset from the mode dial. The way the rubberised skin wraps right around the handgrip prevents it from slipping when vour hands are wet. Also though the number of weather seals are unknown, I'm told sections of the body are tightly sealed to ensure it can survive extreme conditions and provide protection against minimal moisture, water or dust. Anyone planning on shooting in cold climates will be fine, provided it's not used below -10°C.

The G9 is built around a strong magnesium-alloy chassis, which is different to the G80's magnesiumalloy front plate and plastic top plate design. The superior build quality not only means the camera feels less plasticky, but also the buttons and dials are better made, with the latter protruding from the body rather than sitting flush. All the dials rotate positively, with the rear dial combining well with the exposure compensation, ISO and white balance buttons on the top plate. It also works well for scrolling through shots quickly in playback mode.

The G9 shares a likeness to enthusiast DSLRs, both in terms of its size and the design of its top plate. On the left is a lockable mode dial with a drive mode switch beneath. There's the option of allocating two burst settings to drive mode I or II, and if you go beyond self-timer mode, you'll find options to create a time-lapse or

stop-motion animation in-camera. Another excellent addition is the G9's large top-plate display, which is helpful for glancing at key settings and saves being totally reliant on the rear screen or EVF. Studying the body from the front, you'll notice two function buttons (Fn4 and Fn5) beside the lens mount. In total, the G9 offers 10 customisable function buttons five of which are issued to the touchscreen, the other three being located at the rear. Another useful feature is the Fn lever, which is located beneath the lens-release button. This can be set-up to customise the camera for different shooting scenarios, and from the menu you're given the option to change AF mode, photo style. image quality, self-timer, shutter type and focus peaking.

Other noteworthy controls include the joystick at the back, to right of the EVF, which is used to control the active AF point(s). As good as it is to be able to intuitively nudge the AF point(s) around the frame, it feels fractionally too far positioned to the left. I would have quite liked it to change position with the combined AF/AE lock button and AFS/AFC switch.

The G9's in-camera menu has also been brought up to date, with the addition of a My Menu tab that allows you to set it up for quick access to commonly used settings.

Viewfinder and screen

The quality of electronic viewfinders is improving all the time and the G9's EVF is an example of one of the best there is

right now. Not only does it offer an impressive 3,680k-dot resolution, it also has a 0.83x magnification. which is larger than you get on many full-frame DSLRs, and many of its rivals, at similar price. A large rubber eyepiece cushions it comfortably against your eye and the disp. button can be used to view key shooting information, including an electronic level and histogram. The resolution of the EVF is so good, I often found myself using it to inspect images in sunlight, where reflections made it hard to review shots clearly on the screen. The display speed of the EVF is set to 60fps as default. presumably to preserve battery consumption. However, 120fps is available with a refresh rate of less than 0.005 seconds.

Importantly, there's no viewfinder blackout beyond the first frame during a continuous high-speed burst, making it easier to track subjects. Interestingly, the magnification of the EVF can also be switched to 0.77x or 0.7x – useful for wearers of glasses who'd like to view the corners of the frame easily, which are depicted by a white border.

The G9's 3in, 1,040k-dot vari-angle screen is different from the 3.2in, 1.62m-dot vari-angle screen on the GH5. However, its functionality is much the same and

Photographing a lion at night was a great test of the G9's low-light performance. This shot was handheld at 1/15sec at ISO 4000 Leica DG Elmarit 200mm 1/2.8 Power OIS, 1/15sec at 1/2.8, ISO 4000

offers an alternative way of navigating the menu, setting the focus point and firing the shutter. It pulls out effortlessly, rotates freely and can be flipped in on itself to prevent it getting scratched when not in use. If you find the screen feed disappears suddenly, it's most likely because the EVF eve sensor has been triggered. To prevent abrupt screen interruptions, some users may wish to turn the LVF/ MON Auto setting off, which is easily done using the Fn3 button.

Autofocus

With other high-end mirrorless cameras now putting in blisteringly fast AF performances, the G9 has a lot to live up to. The good news is that its autofocus is very sprightly indeed, to the point where it's capable of acquiring focus in 0.04 seconds, although in real-world use I couldn't really tell that it's 0.01 seconds faster than the GH5. In bright lighting conditions with ample contrast, users can rest assured that the G9 will acquire focus in a split second with very little fuss. It was only when I pushed the system to extremes in very poor lighting conditions that it showed any hesitancy. In one such situation, where the subject was too far away to be illuminated by the G9's orange AF-assist beam, I opted to

manually focus and was greeted by an array of focus aids. The basic focus-distance scale and peaking displays are good options to have, but I found the magnified view that lets you inspect focus at up to 10x magnification to be most useful. The way in which the magnified area can be shifted around the frame with the AF toggle makes it incredibly intuitive to use and it'll benefit macro specialists in particular, whose priority is always to be extremely precise with manual focusing.

As with previous G-series models, the AF mode is changed between single (AFS/AFF) and continuous (AFC) using the switch that encircles the AF/AE lock button, with the Fn1 button loading the G9's plethora of six AF modes. There's pinpoint AF for super-precise focusing, face/eve detection, tracking and 225-area AF for those who'd like the camera to automatically detect the best AF points to use within a selectable grid. The G9's one-area AF mode lets users define the position of the AF point in up to eight sizes, while custom-multi is great to use for fast subjects in combination with AFC mode. It's much like zone AF in the way you can specify the number of grouped AF points, with the option to change a central

Focal points

The G9 is the most advanced stills camera in the G series to date, and doesn't skimp on features

Battery grip

The BMW-BGG9E battery grip (£309) is built to the same splash, dust and freezeproof standard as the body. It accepts one additional BLF19 battery.

Photo styles

There are nine photo styles, each with the option to adjust contrast, sharpness, noise reduction and saturation controls.

Recording method

Dual SD card slots allow you to spill over to a second card when the first is full, back up images to a second card as you shoot, or record photos to one card and movies to the other.

Remote port Just above the SD card

door is the G9's remote port, which accepts Panasonic's DMW-RSL1 remote shutter. The camera can also be fired remotely using Panasonic's Image app.

Night mode

The G9 presents a new night mode that turns the EVF and screen a shade of red to prevent its bright menu screens dazzling your eyes when working for prolonged periods in the dark.

Customise AF

The G9 offers four AF case settings. Three variables (AF sensitivity, AF area switching sensitivity and Moving Object Prediction) are differently set up for each, with the option to adjust them. These case settings are only available in AFC mode.



Testbench

pattern for a horizontal or vertical pattern and save up to three regularly used areas.

Performance

To give the G9 the test it deserved, I took it to South Africa, where I used it to shoot everything from animals in the wild to landscapes and local portraits. The camera's hasty shooting speeds, effective stabilisation and rapid focusing unite remarkably well. However, I did notice a couple of minor bugs. Having the option of flicking between two burst modes from the drive-mode dial is an excellent idea, but the camera fails to show how many frames per second the camera shoots at in each mode - something I hope will be cured with a firmware update. Other early observations included the shutter button requiring the lightest of touches beyond a halfway press to take a shot, and the battery indicator only showing four bars and not displaying remaining power as a percentage.

Minor points aside, I found the G9 to be extremely enjoyable to use, offering all the buttons and dials you need at your fingertips to set it up as you want, without feeling too challenging or difficult to navigate. There's a lot in the menu to get your head around, but it's well laid out and colour coded. The quick menu combines superbly with the touchscreen to offer

immediate control of commonly used settings, while the LCD display on the top plate is as informative as any you'd find on enthusiast and pro DSLRs. The only thing I felt it needed was a small icon to show when the camera is set to continuous shooting and the speed it's shooting at.

Having the option to set the shutter speed up to 1/32,000sec, while at the same time firing the shutter silently, proved invaluable for photographing wildlife with fast lenses in bright conditions. The battery grip (BMW-BGG9E) and second media slot allowed me to shoot all day without interruption. though in hindsight I feel the grip could have been made slightly better by accepting a pair of batteries not just one, and supporting plug-in charging in the way that Fuiifilm's excellent Power Booster for the X-T2 does.

It's not only the continuous speeds at which the G9 shoots that make a serious impression; the way it handles and processes such high volumes of data so quickly must be commended, too. This is no better experience than when using its high-resolution mode, where you can create a 40MP or 80.5MP file while simultaneously recording a normal image in the raw or JPEG format. It goes without saying that the camera needs to be locked off on a tripod to achieve the best results, but to minimise blur



caused by nudging the camera there's a helpful option to delay the recording process from nine different settings (1/8sec to 30 seconds). With a fast shutter speed, it takes less than five seconds for the camera to capture the eight consecutive shots and process the data into one high-resolution image, which is astonishingly quick. As when you use the 4K/6K Photo modes, an icon appears on the image in

playback to show that it was taken in high-res mode and if you opt to simultaneously record a normal shot, you'll find it's the next shot after the high-res image.

Panasonic has executed its high-res mode extremely well, making it both effectively quick and simple to use.

The G9 does an admirable job of exposing for different scenes, though I did reach for the exposure-compensation button now and again to dial in around -1EV to ensure the highlights were protected in high-contrast scenes. Provided you shoot in raw, you can pull back detail from shadowed regions without introducing too much unfavourable noise. Panasonic's rendition of colour has always swayed towards the cool, so it was refreshing to see that this has been resolved on the G9. The result is an ever so slightly warmer feel to shots captured in its Auto White Balance (AWB) mode, with the option to set it to a AWBc setting if a cooler result is preferred. The standard picture style is generally faithful, but those who fancy adding a bit more punch to colour or mono shots straight out of the camera will want to increase the contrast and colour tone sliders a touch. It should also be mentioned that colour is well matched between the screen and EVF, meaning you get an accurate impression of the final image with whichever

6K and 4K Photo modes

THE LUMIX G9 advances a long way from the Lumix G7 and G80 in the way it allows users to capture definitive moments using its offshoot photo modes. Whereas in the past it was possible to extract 8MP stills from 4K footage at 30fps, there's now the option to extract 18MP still images from 6K footage at 30fps, as with the Lumix GH5.

Alternatively, 8MP stills can be pulled out from 4K footage at 60fps, with 8MP stills from 4K at 30fps still being made available.

Rotating the drive mode dial to 6K and entering the quick menu presents all the G9's 6K and 4K Photo mode options. From here, you can choose from three photo functions (6K/4K burst shooting, 6K/4K burst (Start/Stop) and



6K/4K Pre-burst), which are all designed to make it easier to capture an image at the perfect time. While 6K burst shooting lets you shoot 10 minutes of continuous footage at 30fps, which can be used just like a photo burst mode by holding the shutter down, 6K burst (Start/ Stop) mode starts shooting with a single press of a shutter button and stops with a second press - better suited to shooting opportunities that require a longer waiting time. As for the 6K Pre-Burst function, this is aimed at those who'd like the camera to automatically record one second's worth of footage before and after the shutter is depressed, which could be the difference between capturing a moment and missing it altogether.

you're likely to use most.

Lab results

Andrew Sydenham's lab tests reveal just how the camera performs

Our cameras and lenses are tested using the industrystandard Image Engineering IQ-Analyser software. Visit www.image-engineering.de for more details





Though Micro Four Thirds sensors are prone to showing more noise at high sensitivities than their APS-C rivals, the G9 is capable of producing very clean images with strong levels of detail and well-controlled noise between its extended ISO 100 setting and ISO 800. In low light, I didn't hesitate to use ISO 1,600 and ISO 3,200, with ISO 6,400 being my cut-off point. The improvements to the imaging algorithms squeeze the best out of the 20.3MP sensor, and resolution figures show it's capable of resolving above 3,000l/ph up to ISO 3,200.

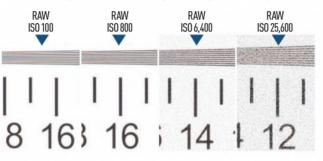
Resolution

A close examination of the G9's raw files shows its 20MP sensor provides a maximum resolution of around 3,300 lines per picture height at ISO 100, which is a respectable result. This figure gradually drops as the ISO sensitivity is raised and noise increases. Pushing

beyond ISO 800 sees resolution reduce to 3,000l/ph at ISO 1,600 and 2,800l/ph at ISO 6,400 – identical to those previously recorded by the Olympus OM-D E-M1 Mark II's 20MP Micro Four Thirds sensor. At its highest ISO 25,600 setting, the G9 registers 2,400l/ph.



Here we show details from our resolution chart test pattern (above). Multiply the number beneath the lines by 200 to give the resolution in lines per picture height (l/ph).



Noise



The crops shown below are taken from the area outlined above in red

The G9's automated in-camera noise reduction impinges on extremely fine detail in JPEGs beyond ISO 400, so to achieve the finest results at high sensitivities, shooting in raw is a must. Luminance noise kicks in at ISO 800, but detail is well preserved. A slight reduction in detail is obvious at ISO 1,600 and ISO 3,200, with increased noise being observed in the latter. I'd be content to push as far as ISO 6,400 in very low light, but would need to apply some noise reduction in post. ISO 12,800 and ISO 25,600 give poor results, so if you shoot regularly in very low light, then buying a camera with a larger APS-C or full-frame sensor would make more sense.





RAW ISO 6,400



RAW ISO 400



RAW ISO 12.800



RAW ISO 1,600



RAW ISO 25,600



Verdict



THE LUMIX G9 is, by some margin, the finest stills camera Panasonic has ever produced. It exceeded all expectations and then some during demanding tests. Okay, it doesn't feel quite as refined as a professional mirrorless camera and there are some areas of its body where I would have liked to have seen metal used as opposed to plastic, but the general feel is excellent and it gives the sense you're holding onto an enthusiast DSLR stripped of its bulkiness and weight.

It withstood some serious knocks and abuse on safari, and backs up its sturdiness with a splendid offering of high-speed shooting, fast focusing, quick processing and very effective in-camera stabilisation. It's the most affordable high-speed mirrorless camera on the market at present. Only the professional Sony A9 can match its blazing 20fps with continuous AF offering, and at £4,449 that comes at a very hefty premium.

The G9 is more than just a master of speed. Like many cameras we've seen of late, it sells itself as being highly versatile for all subjects and is supported by a vast selection of Micro Four Thirds lenses – there's one for any imaginable purpose.

Of course, there's still the question of noise, with the smaller Micro Four Thirds sensor having its work cut out to rival its APS-C competition, but provided it isn't pushed to the extremes of its sensitivity range, the G9 is more than capable of delivering extremely satisfying results.

Panasonic has done a sterling job with the G9 and has launched it at a very competitive price. As I've mentioned before when I've reviewed G-series cameras, there are mirrorless alternatives that can resolve finer detail and perform better in low light, but with so much to like, it's hard to think of a reason why anyone after an insanely fast, lightweight and versatile camera working to a £1,500 budget wouldn't seriously consider the Panasonic Lumix G9.

FEATURES
BUILD & HANDLING
METERING
AUTOFOCUS
AWB & COLOUR
DYNAMIC RANGE
IMAGE QUALITY
VIEWFINDER/LCD

9/10 9/10 8/10 8/10

8/10 8/10 8/10 9/10



t's a much-repeated truism that the rise of smartphones has changed the face of the photographic industry. Mass-market point-and-shoot compacts are now all but extinct, simply because for most people, phone cameras are good enough. This has caused traditional camera manufacturers to concentrate on the high-end market, producing models with ever-increasing features and higher image quality, but also higher prices.

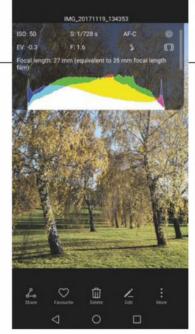
Most serious photographers, of course, also own a smartphone and use it to take pictures when they don't have a 'proper' camera to hand. But I suspect that few see it as more than a casual snapshot device. I've owned three generations of iPhone since 2008

and watched the cameras improve in leaps and bounds. But while the technical image quality is pretty good under favourable conditions, the tiny sensor is still clearly a limiting factor.

That said, the technology giants that make smartphones have invested vast amounts of money into getting their minuscule cameras to punch way above their weight. The aim hasn't necessarily been to improve those measures that pixel-peeping camera geeks tend to obsess over, such as resolution, raw dynamic range or high-ISO noise. Instead, it's all about making well-exposed, attractively coloured images that will look great when shared on social media. They've made huge strides in this regard, and judged purely on these terms, my iPhone SE

produces consistently more attractive images than my Sony Alpha 7 II, the JPEGs of which usually need white balance and colour adjustments before I'm happy to share them.

With photo performance now being a crucial differentiator between smartphones, the battle to provide the best camera inside a slim handset has reached new heights of innovation. By combining the latest multi-camera designs with judicious use of multi-frame shooting, the more innovative phone makers are producing remarkably good results. Throw in camera apps that offer fully manual exposure control and DNG-format raw recording, and you get the kind of device enthusiast photographers should probably take more seriously.



Detailed information is available in playback, including an RGB histogram



Which is all a long preamble to introducing the Huawei Mate 10 Pro. This is a high-end Android smartphone with an unusual dualcamera module developed in conjunction with the most famous name in the industry: Leica. The device sports two lenses denoted Leica Summilux-H 1:1.6 ASPH, but with different sensors behind each. One is a conventional colour-sensitive 12MP Bayer sensor with optical stabilisation, but the other is a 20MP monochrome sensor. In most situations, data captured by both cameras is used to generate the final JPEG. However, switch to monochrome mode and the device uses its monochrome camera alone, a bit like the £5,500 Leica M Monochrom. This alone makes it a really interesting photographic tool.

An impressive smartphone

While camera quality is an important factor in choosing a new smartphone, clearly the device also has to work well for day-to-day use. Thankfully, the Huawei Mate 10 Pro is a well-specified smartphone at a price usually reserved for less-powerful devices. Indeed, at

£699, it's 30% cheaper than Apple's flagship iPhone X. It's built around a huge OLED 6in screen that almost covers its face, which is bright enough to use in sunlight, and yet can throttle down sufficiently so as not to dazzle you in the dark. With FHD+ 2,160x1,080pixels resolution, it's superbly detailed and colours are accurate, so long as you use the screen's Normal colour mode rather than Vivid.

Processing power is provided by Huawei's Kirin 970 chipset, which is the first ever in a consumer device to use built-in artificial intelligence (AI). According to Huawei, it enables radically faster subject recognition and superior image processing. This is backed up by 6GB of RAM and 128GB of storage - a vast amount of space that's very handy if you shoot raw. A high-capacity 4,000mAh battery promises comfortably longer than a day's life, but can recharge to 50% capacity in 30 minutes. The device is waterproof to the IP67 standard, meaning it should survive being dropped into water for half an hour: the price you pay for this is the loss of a conventional headphone socket, but you

What's Leica got to do with it?



SEEING A PHONE from a young Chinese company with the name Leica on the back, you might assume that it's a one-way licensing agreement, with Huawei paying Leica for use of its prestigious brand. But on my recent trip to Leica's factory in Wetzlar, Germany, both firms told a more interesting story. Where other camera makers responded to the rise of smartphones by stopping the manufacture of compact cameras, Leica sensed an opportunity to diversify its business and sought out a smartphone maker with which to join forces.

At the same time, the hugely ambitious Huawei knew that it needed to improve the cameras in its flagship phones and recognised that it didn't have the requisite knowledge internally. The result was a meeting of minds and the establishment of a true partnership, with integrated teams across the two companies working on every aspect of the imaging pathway. Leica contributes its significant expertise in optics and image signal processing; Huawei incorporates it all into the device. The result is a camera that's genuinely co-developed by the two firms.



can plug an audio adapter into its USB-C port, which is also used for charging and data transfer.

In terms of design, the Mate 10 Pro is laid out much like other current smartphones. which means it's a super-slim device (less than 8mm thick) that'll slip into a pocket. The back is crafted from gently curved glass, while metal edges reinforce the impression of premiumquality build. Measuring 74.5mm across, it's narrow enough to hold comfortably in one hand – an impressive achievement considering the screen size. Biometric security comes courtesy of a fingerprint scanner on the back. which I've found to be incredibly quick and reliable. The phone comes in a choice of four colours - Titanium Grey, Midnight Blue, Mocha Brown and Pink Gold - and a protective clear silicone case is supplied in the box, which makes the device rather easier to grip.

Of course, being a smartphone, the Mate 10 Pro is a pretty horrible shape for a camera. It just about works OK shooting one-handed in portrait format, as you can nestle it into the base of your thumb, but you'll definitely need two hands for landscape-format shooting. One saving grace is that the volume buttons can be used to trigger the shutter, the only problem being that it's all too easy to hit the nearby standby button instead. On a more positive note, the bundled headphones can be used as a cable release for long-exposure shooting via their volume control.

Camera app and features

In camera terms, the Mate 10 Pro boasts an impressive collection of features. In its basic, fully automatic mode, it uses its AI processor to identify the type of subject you're shooting, and in principle adjust the exposure settings and image processing accordingly. Other options include a now de rigueur Wide Aperture mode that generates fake background blur, alongside

In good light, the Mate 10 Pro gives attractively coloured and detailed colour images 1/28/0/sec at 1/1.6, ISO 50

a 2x Smart Zoom function that claims to offer better results than a conventional digital zoom by exploiting the 20MP luminance data from the monochrome camera.

Most interesting from a photographer's point of view is its Pro mode, which gives almost complete manual control. It's easily engaged by swiping upwards from the bottom of the preview image, and has an admirably simple interface. You can set the metering pattern from matrix, centreweighted, and spot; change the sensitivity from ISO 50 to 3,200; select

shutter speeds from 30secs to 1/4,000sec; apply exposure compensation across a +/- 4-stop range; select the focus mode between single-shot and continuous autofocus or manual; and adjust the white balance from a choice of four pre-sets for the most common light sources or a manual slider from 2,800 to 7,000K. However, there's no means of aperture control; the tiny lenses are fixed at f/1.6. In 35mm terms this is equivalent to f/11, so you still get plenty of depth of field.

Swiping right in the camera app gives access to an array of special modes, including high dynamic range, panorama, night-shot and light-painting modes, as well as timelapse and slow-motion movies. This is also where you can switch to monochrome or video shooting. Swiping left enters the options menu, where you can change the resolution and aspect ratio, engage DNG raw recording, and enable electronic levels and gridline displays.

In playback, you get a bit more than you might expect from a phone, too. It's possible to view full EXIF data and an RGB histogram, and do some basic editing within the camera app itself, including brightness, contrast, saturation, sharpness, shadows and highlight adjustments. You can also rotate and crop your images, or apply 'artistic' image-processing filters. So there's less need to jump in and out of apps like Snapseed before sharing your pictures. From the separate Gallery app, you can even re-convert your DNG raws, with a similar set of options.

Compared to what you'd expect on an enthusiast compact, though, there are a few omissions. There's neither a live histogram for judging exposure, nor visual aids for accurate

Wide Aperture mode

LIKE MOST MODERN high-end smartphones, the Mate 10 Pro boasts a fake-bokeh mode designed to blur the background when shooting portraits, mimicking the effect of a large-aperture lens. This Wide Aperture mode is accessed by tapping an icon at the top of the screen, and even has an onscreen slider that lets you adjust the blur level using a scale marked from f/0.95 to f/16, previewed in real time (and slightly misleadingly, also recorded in the EXIF data). What's more, if you record raw in this mode, then you can change both the focus point and degree of background blur after the event in playback. This is all very clever, and the results look perfectly OK for social-media use. However, the image files don't stand up to any kind of scrutiny if you

Wide Aperture mode gives significant blur at f/0.95, but subject masking is imperfect

examine them in any detail, as the masking around the subject looks very crude, and is easily fooled by even slightly complicated shapes. Thankfully, you can also output a normally-processed image file from the raw if you prefer.



SMARTPHONE TEST Testbench



manual focus. Most disappointing for me, though, is the fact that it's not possible to output DNG raw when using the monochrome camera. I really hope Huawei and Leica can add this in a future update.

Performance

So now let's get to the point: how well does the camera work? Very well indeed. Autofocus is fast and reliable, while white balance and exposure are both generally well judged. The screen gives an accurate preview of how your photos will turn out, so you can easily brighten or darken your images if you want to.

In good light, when the camera can use its base sensitivity of ISO 50, image quality is really rather good. Viewed at the pixel level, the JPEGs look highly processed, with extensive noise reduction and enthusiastic sharpening; however, they have attractive colour and more than enough detail for A4 prints. Pull the DNG files into your favourite raw processor and you'll

find the underlying quality is better than the JPEGs might suggest. There's a little luminance noise you may wish to suppress in raw processing, but crucially the lens resolves loads of detail across the frame, which means noise reduction has high-quality data to work with. The colours look very odd to begin with, but this is due to strong cyan colour shading into the corners: suppress this with a radial filter and the improvement is striking. There's a little scope for making brightness adjustments and pulling up extra shadow detail, but noise will quickly become evident.

In low light, the Mate 10 Pro continues to give very decent images. But examination of the image EXIF data reveals that this isn't down to some image-processing wizardry; instead the large-aperture, wideangle lenses mean the camera doesn't have to raise the sensitivity anywhere near as much as you might think. Indeed, it rarely has to go beyond ISO 400, even when shooting indoors or at night, and at this setting it gives guite acceptable results.

It's the monochrome mode that's most intriguing, though, although in some ways also the most frustrating. You can't record DNG raw files, nor can you independently set the mono camera to its highest-resolution 20MP setting without also getting pointlessly enlarged 20MP JPEGs when you switch back to colour. But once you see the results from the native monochrome sensor, you might overlook all this because there's something about the tonality that'll have fans of black & white drooling. What's more, you can even place coloured filters – red, orange, yellow or green - over the lens to manipulate the tonality, just like with black & white film. In ergonomic terms holding a filter in front of the camera is a bit of a nightmare, but the results are worth it; there's something special about a landscape shot through an orange filter on a sunny day.

The mono camera also has the advantage of giving cleaner images at high ISO settings, which is what we'd expect given the lack of a light-sapping colour filter array. This makes it an interesting option for subjects such as night-time street photography. The caveat is that you're stuck with the phone's JPEG processing, which tends to crush shadow detail completely. Some might not like this, although personally I think it provides an attractive high-contrast black & white aesthetic.





Placing a red filter in front of the lens for this shot has darkened the sky and lightened the grass

Our verdict



LET'S BE CLEAR: the Huawei Mate 10 Pro isn't going to replace your DSLR, or largeaperture lenses, or even a premium pocket compact like the Canon PowerShot G7 X Mark II. No matter how clever the electronics and signal processing, the laws of physics still apply: if you want high resolution, large dynamic range, or shallow depth of field, there's simply no substitute for the light-gathering capabilities of large sensors and wide-aperture lenses.

But defining a camera by what it can't do makes no sense at all. Instead, smart photographers should work out what their cameras are good for, and then exploit their strengths. If you buy a Huawei Mate Pro 10, chances are you'll have it with you most of the time, and for this take-anywhere role it does a very decent job. As smartphone cameras qo, it's one of the best you can buy right now, capable of surprisingly good results for instant sharing while giving the option of shooting raw if you want to make more of your photos later.

However, from a photographer's point of view, it's the monochrome camera that

makes the Mate 10 Pro truly stand out from the crowd. It's genuinely unique, and gives great-looking images. If you love shooting black & white, this alone could tip the balance in Huawei's favour when the time comes to update your phone.

Data file

Optics 4mm f/1.6 Leica Summilux-H ASPH

Sensors 12MP RGB, 20MP monochrome

Front camera 8MP, f/2 lens

Display 6in 18:9 OLED, 2160x1080, 402ppi

Operating system Android 8

Storage 128GB **Dimensions** 74.5x154.2x7.9mm Weight 178a

Zor.com Alu-Dibond

Michael Topham tests a Dibond aluminium printing service

- From £2.76 (20x20cm)
- www.zor.com

At a glance

- 3mm Dibond
- Sizes from 20x20cm to 120x80cm available
- 3M hanging system available (€4.95)
- Weather- and water-resistant

IF YOU'D like a modern and stylish way of displaying your prized photos on the wall, opting to have a direct print made on aluminum can be an excellent choice. There are a number of online photo labs that specialise in such work, one of which is Zor.com - a Belgium-based lab offering Dibond aluminium printing in 13 standard sizes up to 120x80cm, with the option to create custom-size prints from as small as 20x20cm. Zor's 3mm thick Dibond consists of a low-density core of polyethylene that's sandwiched between two thin sheets of aluminum to give it strength and rigidity while remaining incredibly lightweight. This durable way of presenting images comes with the added benefit of being weather-resistant, water-resistant, rust proof and fade proof, allowing prints to be displayed outside as well as indoors.

The ordering process is hassle-free thanks to the easy-to-navigate website. After uploading my chosen image, sizes were clearly listed alongside pricing information. My only criticism is that pricing is listed in Euros not British pounds, despite there being an English version of the site. At the top of the website there's a clear indication of the production time and my custom size (85x63cm) Dibond print came to £52 including delivery to the UK. The print arrived on time and undamaged, but the basic cardboard packaging was lacking fragile stickers. Inside the print was shrouded in bubble wrap with foam protecting the corners. An inspection of the print quality revealed excellent colour and detail rendition. The finish of the paper falls in-between glossy and matte so it's neither too reflective nor too dull, but it would have been nice to apper have the option to choose the paper

Production

At the time of testing, production time was 10 days so expect your wall art to arrive within two weeks from the time of order.

time

Discount code

AP readers are eligible for a 10% discount in January on aluminium print orders using the code 'Amateur Photographer10'.

Finish

The edges of our test Dibond benefited from being smartened up a little by running a scalpel carefully along each side.

stock like some other photo labs offer. The overall quality of my final print was let down by some scruffy edges. Also the backing film of the Dibond was still attached, which I had to peel off before it could be mounted on the wall.

The ordering process and print quality of Zor's Dibond aluminium print service is of a good standard, but in the case of my test the packaging and final finish could have been better. I had to spend

time tidying up the edges with a scalpel, so don't expect exhibition-quality prints out of the box. If you're working to a budget and like the idea of displaying images on aluminium. Zor.com is worth a look as it's cheaper than most photo labs. Just beware you may have to make some finishing touches yourself.

Hanging

For €4.95 extra you can add 3M hanging strips to your order to save drilling holes into the wall to secure the Dibond.

ALSO CONSIDER

Through the Zor.com service you can order wall art and photo blocks on different backing materials. If you'd prefer something different to the aluminum Dibond service you may be interested in printing some images on acrylic glass or on Forex/PVC. The price of printing on Dibond and acrylic glass is the same (from €3.99 for a 30x20cm print), but the cost of printing on Forex/PVC is slightly cheaper (from €2.99 for a 30x20cm print).





TechSupport

Email your questions to: ap@timeinc.com, **Twitter** @AP_Magazine and #AskAP, or **Facebook**. **Or write to** Technical Support, Amateur Photographer Magazine, Time Inc. (UK), Pinehurst 2, Pinehurst Road, Farnborough Business Park, Farnborough, Hants GU14 7BF

Vertical fix

From your review of the Olympus OM-D E-M10 Mark III (AP 14 October) I noted that the camera has a Keystone Compensation for fixing converging verticals. I would like to know more about this feature. For example, how effective is it and are there other camera makes that have similar fixes?

Ken MacLean

Olympus's Keystone Compensation is very effective indeed. It's controlled manually, and crucially previewed live in the viewfinder. So you can easily judge the ideal adjustment for each picture. When it's engaged, the front and rear dials are temporarily reassigned to applying horizontal and vertical corrections; all you have to do is spin them until the picture looks right, then press the shutter. The camera will produce a processed JPEG with your perspective corrections applied. You can shoot an unadjusted raw file alongside, and it's even possible to tweak vour adjustments after shooting. using the in-camera raw processing feature (although it's not easy to use on the E-M10 III).

In terms of image quality, the process works by stretching parts of the picture, which can result in a loss in sharpness and magnification of image-processing artefacts if you look at your files closely. But this is inevitable for software keystone



Keystone Compensation can be viewed live in the E-M10's viewfinder

correction, and is a price I'm happy to pay for having the feature in-camera. For the best possible results, you're probably better off applying corrections in raw processing, with careful sharpening as the final step.

No other camera brand offers exactly this, although Nikon has a perspective adjustment feature that can be applied in playback, and which can work really well. But the problem with making corrections after the event is that you can find you haven't framed wide enough and either have to crop more tightly or fill in blank spaces in your foreground in post-processing. This is a key advantage to Olympus's live preview – you always know that you've got the shot.

Andy Westlake

Lens fungus prevention

I have never suffered from fungus in my camera lenses but it does seem quite common, especially in old lenses. I use elderly Leicas with elderly lenses. What are the risk factors for getting fungus? Can risk be reduced with specific storage conditions? (or increased because of how they are stored?)

Collieslave (AP forum)

Moisture, primarily in the form of humidity, is the main culprit. In countries with warm and humid climates it's quite normal for photographers to use desiccant storage containers for their lenses. But even in places that aren't routinely prone to high humidity, mould spores in dust

that get into a lens only need a bit of a once-in-a-blue-moon condensation to be activated. Older lenses may well be more primed to go mouldy. An investment in a few sachets of inexpensive desiccant in your camera bag and lens cases should put your mind at ease.

Ian Burley



Choosing the best image stabilisation

After several years of gradually getting into photography and building my experience and confidence using a Sony bridge camera, I have started to save up for my first system camera. There are so many considerations to make when choosing the right system, let alone a specific camera model. One area that I feel is pretty critical to the task of choosing my new system is image stabilisation. For a start, what are the pros and cons of optical IS in the lenses compared to in-body IS? Are there any stand-out systems?

Rex Carver

There are two basic types of image stabilisation. Both strive to keep the image as still as possible on the sensor despite camera movement. Optical Image Stabilisation (OIS) is older. An element or group of elements inside the lens is dynamically shifted in real time, in response to motion sensed by accelerometers (gyros). In-body or sensorshift stabilisation use the same motion sensing to move the sensor in real time. But that's not all. There are various degrees of effectiveness with both systems, and recently some camera manufacturers have combined both systems to maximise performance. Implementing OIS is, on balance, better with longer focal-length lenses. Sensor-shift IS is good for medium tele and shorter focal length lenses. More advanced sensorshift systems can correct for rotational movement as well as lateral and vertical movement, which is not possible with OIS.

On paper, sensor-shift IS is a more pure solution as there is no compromise to optics; it could work with any lens fitted, not just an IS-enabled lens. On the other hand, OIS is a highly refined technology and works especially well for video. The best systems combine the two technologies. Sony offers both sensor stabilisation and OIS lenses, but Panasonic, which has a limited number of camera bodies with sensor stabilisation, lets the two systems (Dual IS) operate at the same time to improve overall stability control. Olympus has the highest performing 'Sync IS' system but only with selected high-end lenses working with a limited choice of bodies.

Ian Burley

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Tech Talk

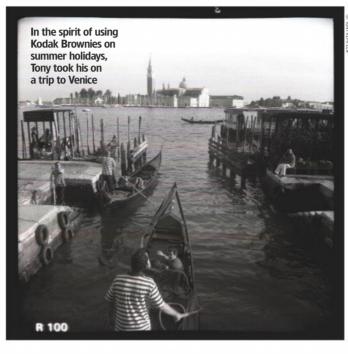
Tony Kemplen on the ...

3rownie

This Brownie was not only simplistic, but it was also the first model to feature auto exposure

odak first used the name Brownie in 1900, and in the decades that followed, vast numbers of different models were made and sold in Britain and the USA. For the most part the Brownies were ultra simple, but there were a few exceptions to this rule. With the increasing popularity and affordability of colour film in the post-war years, accurate exposure became more important. I suspect that disappointment with muddy. underexposed photos was a regular occurrence, and Kodak sought to address this by adding an element of exposure control.

Simplistic, yes; simple, no The essence of the Brownie concept was simplicity - users did not want to get too involved in choosing the settings. So, in 1959 the first auto-exposure Brownie was launched. The Starmatic uses the slimline, but by now almost obsolete 127 roll film, and hence, fits in a coat pocket. The design is that of an eve-level box camera - a square viewfinder window on the top left of the body is balanced by the selenium cell on the right that drives the auto-exposure system. Between these two windows is a red marker that moves according to the light levels. At first glance, it makes no sense to have this on the front of the camera where you can't see it while taking a photo, but the red marker is also visible in the viewfinder, so you can confirm there is enough light to take a picture. There is also provision for a bolt-on flashgun if you want to take pictures indoors. The fixed focus 44mm Kodar lens has an aperture of f/8, but this is stopped



down by the auto-exposure system to suit the lighting conditions; the shutter speed is fixed at 1/40th. On the top of the camera a dial lets you set the film speed between 32 and 125 ASA



The Brownie Starmatic used slimline 127 roll film which made it compact

(ISO); there is an exposure value (EV) wheel to allow manual choice of EV instead of the auto setting.

Even though 55 years old, the camera seemed to be in full working order, with the exposure needle moving freely and giving a respectable 5-stop range of apertures. Film speeds were slower in the 1950s, but I used a roll of Efke 100 black & white film, which is within the camera's range.

Earning Brownie points Kodak Brownies and summer holidays are inextricably linked, so I took mine with me on a trip to Venice. While there I went into full-on tourist mode and shot this unashamedly clichéd view of gondolas setting off toward the island of San Giorgio Maggiore (above). Like the other 11 shots on the roll, including one taken in a bright interior, the exposure proved to be spot on.

Tony Kemplen's love of photography began as a teenager and ever since he has been collecting cameras with a view to testing as many as he can. You can follow his progress on his 52 Cameras blog at 52cameras.blogspot.co.uk. See more photos from the Brownie Starmatic at www.flickr. com/tony_kemplen/sets/72157631326230240

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Printed in the UK by the Wyndeham Group Distributed by Marketforce, 5 Churchill Place, London E14. **Telephone** 0203 787 9001

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120mm F4 CFE Macro	E++ £999
150mm F4 C Black	
150mm F4 CF	
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250mm F5.6 C Black	
250mm F5.6 C Chrome	
250mm F5.6 Chrome	
2x Mutar Converter	
2xE Converter	E++ / Mint- £239

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16/18/21mm F4 Tri Elmar + Finder E++ £2,99
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21mm F2.8 M Black Exc / E++ £689 - £93
21mm F2.8 M Black + Finder E+ £88
21mm F3.4 ChromeE+ £74
24mm F1.4 Asph M - Black Mint- £3,38
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28mm F2.8 AFN E+ / E++ £129 - £139
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55-200mm F4-5.6 AFS DX G VR As Seen / E++ £49 - £89
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70-300mm F4-5.6 AFG E++ £59
70-300mm F4-5.6 ED AFDE+ £89
70-300mm F4-5.6 G AFS VR E++ £319
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	., 21,000

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24mm F2.0 Zuiko	
28-70mm F3.5-4.5 Sigma	
28mm F2.0 Zuiko	
35-70mm F4 Zuiko	
350mm F2.8 Zuiko	E+ £1,950
35mm F2.8 Zuiko Shift	E++ £299
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80mm F4 Macro Zuiko	
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16-45mm F4 ED AL SA Samsung E++ £129
16-50mm F2.8 A* DA SDME++ / Mint- £429 - £549
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17-28mm F3.5-4.5 Fisheye F E++ £19
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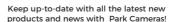




















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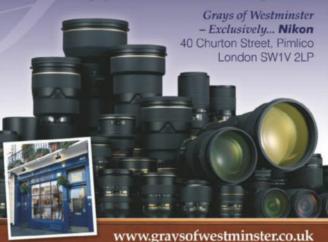
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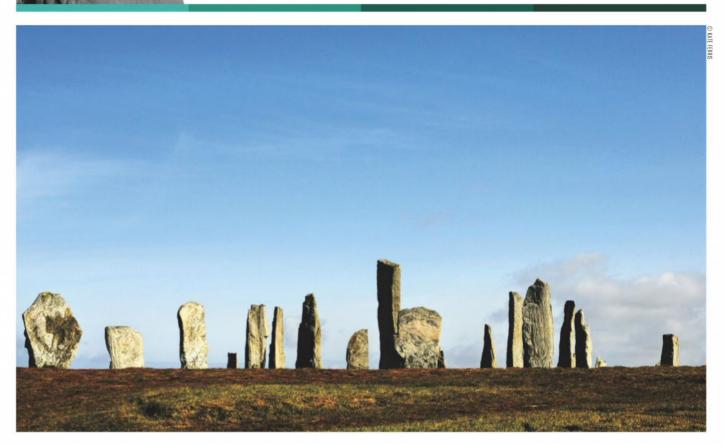
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'Callanish Stones, Isle of Lewis', 2009, by Kate Ferris



rehistoric stones are at once familiar and alien. Some are more familiar than others: the Nine Maidens in my native Cornwall or the megalithic dolmens where I live in France. The most alien I have ever seen were at Carnac in Brittany. But I have never been to the Isle of Lewis in the Outer Hebrides, which is where the Callanish Stones were put in place about 40-50 centuries ago. Kate Ferris makes me suspect I would immediately find these both familiar and alien. Kate doesn't have her own website, but she is on Flickr (as The Tamed Shrew), and sometimes (as Catriona) on AP forums.

To a very large extent, the success of this picture is down to colour and light: blue above and red below, with the stones between gilded by the hard, low light of a clear Hebridean autumn day. I can imagine the same scene under massive heavy and threatening storm clouds, and I have no doubt that it could make a great

'These stones are the only tangible bridge over the millennia between us'

picture, especially in black & white. But for me, it would not be as alien as this. Here is a bright, cheery day which our ancestors would very likely have enjoyed just as we do, and yet, paradoxically, this pushes them still further from my comprehension. These stones are the only tangible bridge over the millennia between us. Otherwise, there is the intangible bridge of imagination.

The absence of modernity

At one point in Sir Terry Pratchett's *Strata* (1981), a human and an alien are talking about another alien called Marco. Silver, the Shand, says to Kin, the human, 'Do you think you could understand the workings of a Japanese warrior of a thousand years ago? But he is as a twin to you, compared with Marco, or with

myself. Why did our remote ancestors put up these stones? What did it cost, in blood, sweat and what they regarded as treasure?

Another great thing about this picture is the complete absence of anything modern. All too often, historical sites are ruined by modern signs, railings, interpretations, walkways - indeed, by fellow visitors. But the magic of cromlechs, dolmens, menhirs and the like is that we must interpret them for ourselves. We can read the histories and theories and everything else, but when we are there, we must be in the moment, grokking the fullness. I am in this picture. I can smell the air, feel the springy turf beneath my feet, run my fingertips over the standing stones. I am alone, imbibing a magic that stretches back for perhaps 350 generations. To share this magic photographically is a very great gift.

Roger Hicks has been writing about photography since 1981 and has published more than three dozen books on the subject, many in partnership with his wife Frances Schultz (visit his new website at www.rogerandfrances.eu). Every week in this column Roger deconstructs a classic or contemporary photograph. Next week he considers an image by Adrian Sadlier

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Sony FE 55mm











Sony FE 24-70mm f/f/2.8 GM



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